

**FLUOR**

**Memorandum**

To: S. J. Trent Date: T4180-03-SLF-032  
September 16, 2003

From: S. L. Fitzgerald, Manager *[Signature]* Telephone: 373-7495  
WSCF Analytical Services

cc: W/Attachments W/O Attachments

T. F. Dale	S3-28	D. M. Thornton	S3-30
S. L. Fitzgerald	S3-30	D. Hart	S3-30
H. K. Meznarich	S3-30	L. C. Swanson	E6-35
J. E. Trechter	S3-30	File/LB	
M. Neely	S3-30		

Subject: FINAL RESULTS FOR 200-PW-2/200-PW-4 OU- BOREHOLE SOIL SAMPLING-  
SAMPLE DELIVERY GROUP (WSCF20031117) SAF NUMBER F03-006

- References: (1) Groundwater Protection Program-Letter of Instruction, FH-EIS-2003-MEN-001,  
October 31, 2002
- (2) HNF-SD-CD-QAPP-017, Rev. 5, Waste Sampling and Characterization Facility  
Quality Assurance Plan

This letter contains a narrative (Attachment 1) for the sample delivery group (WSCF20031117),  
the analytical results (Attachment 2) and the sample receipt information (Attachment 3).

slf/ddw

Attachments 3

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T4180-03-SLF-032

ATTACHMENT 1

**NARRATIVE**

Consisting of 3 pages  
Cover page not included

<b>Sample Delivery Group</b>	<b>WSCF20031117</b>
<b>Sample Matrix</b>	<b>Soil</b>
<b>Sample Visual</b>	<b>Brown</b>
<b>SAF Number</b>	<b>F03-006</b>
<b>Data Deliverable</b>	<b>Summary Report</b>

**Introduction**

One (1) soil sample (B173V6) from the GPP was received at the WSCF Laboratory on August 13, 2003. The sample was analyzed for those analytes indicated on the attached copy of the chain of custody (COC) form in accordance with the *Groundwater Protection Program- Letter of Instruction*, referenced in the cover letter.

The narrative (Attachment 1) will address sample characteristics, analyses requested and general information in performance of the analytical methods. A Data Summary Report (Attachment 2) includes analytical results, a comment report detailing method abnormalities, tentatively identified peaks if applicable, method references, and Laboratory QC information. Copies of the chain of custody and Request for Sample Analysis forms are included as Attachment 3.

**Analytical Methodology for Requested Analyses**

- PCB's by EPA SW-846 Method 8082. Analytical work was performed with no deviations to the approved method.
- ICP-MS Metals by EPA Method 200.8 and ICP-AES Metals by EPA SW-846 Method 6010A. Analytical work was performed with no deviations to the approved method.
- Semi-VOA's by EPA SW-846 Method 8270B. Analytical work was performed with no deviations to the approved method.
- Alcohols and Glycols by EPA SW-846 Method 8015. Analytical work was performed with no deviations to the approved method.
- WTPH-D by WDOE Method NWTPH-Dx. Analytical work was performed with no deviations to the approved method.
- WTPH-G by WDOE Method NWTPH-Gx. Analytical work was performed with no deviations to the approved method.
- IC Anions and Ammonium by EPA SW-846 Method 300.0 and 300.7. Analytical work was performed with no deviations to the approved method for Ammonium, but a deviation was required for the Anions (see comments below).

- The pH by EPA Method 150.1. Analytical work was performed with no deviations to the approved method.
- Percent Solids by EPA Method 160.3. Analytical work was performed with no deviations to the approved method.
- Cyanide by EPA SW-846 Method 9010. Analytical work was performed with no deviations to the approved method.
- All RadChem analyses (AEA's, GEA) were run by internal WDOE accredited WSCF procedures. Analytical work was performed with no deviations to the approved method.

### Comments

PCB's – The hold time(s) for this analysis was met. A Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per the GPP Letter of Instruction. See page(s) 2-19 and 2-20 for QC details.

ICP-MS and ICP-AES Metals – The hold time(s) for this analysis was met. A Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per the GPP Letter of Instruction. See page(s) 2-30, 2-31, 2-32, 2-33, 2-34, 2-36 and 2-37 for QC details.

Semi-VOA's – The hold time(s) for this analysis was met. A Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per the GPP Letter of Instruction. See page(s) 2-24, 2-25, 2-26, 2-27, 2-28 and 2-29 for QC details. Compounds listed on the tentatively identified peak report with an "N" qualifier have been identified with the program used to interpret the raw data.

Alcohols and Glycols – The hold time(s) for this analysis was met. A Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per the GPP Letter of Instruction. See page(s) 2-39 for QC details.

WTPH-D – The hold time(s) for this analysis was met. A Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per the GPP Letter of Instruction. See page(s) 2-21 for details.

WTPH-G – The hold time(s) for this analysis was met. A Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per the GPP Letter of Instruction. See page(s) 2-38 for details.

IC Anions – The client requested hold time(s) for this analysis was not met. The client was notified and requested WSCF to continue with this analysis. A Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per the GPP Letter of Instruction. See page(s) 2-16 and 2-17 for QC details.

NH4 – The hold time(s) for this analysis was met. A Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per the GPP Letter of Instruction. See page(s) 2-15 for QC details.

Percent Solids – PCB's, Semi-VOA's, Alcohols and Glycols, WTPH-G and WTPH-D analytical results were corrected for percent solids. All other analytical results were reported for the sample as received.

CN – The hold time(s) for this analysis was met. A Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per the GPP Letter of Instruction. See page(s) 2-35 for QC details.

RadChem – There are no hold times associated with these WDOE accredited methods. Except for GEA, a Laboratory Control Sample and Duplicate were analyzed with each delivery group per the GPP Letter of Instruction. See page(s) 2-18, 2-22, and 2-23 for QC details.

This Summary Report is in compliance with the SOW, both technically and for completeness. Release of the data contained in this hard copy report has been authorized by the WSCF Laboratory Analytical Manager and Client Services, as verified by the following signature.



Troy Dale  
WSCF Production Control

Abbreviations

Hg – mercury  
IC – ion chromatography  
ICP – inductively coupled plasma  
ICP/AES – ICP/atomic emission spectroscopy  
ICP/MS – ICP/mass spectrometry  
Total U – total uranium  
AT/TB – total alpha/total beta  
AEA – Alpha Energy Analysis  
WTPH-G – Total Hydrocarbons-Gasoline

Am – americium  
Cm – curium  
Pu – plutonium  
Np – neptunium  
GEA – gamma energy analysis  
H3 – Tritium  
Sr – Strontium 89, 90  
WTPH-D – Total Hydrocarbons-Diesel  
TSS – Total Suspended Solids

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ATTACHMENT 2

**ANALYTICAL RESULTS**

Consisting of 39 pages  
Cover page not included

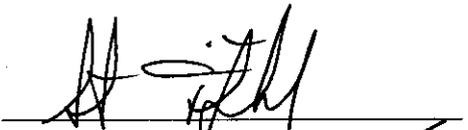
# WSCF ANALYTICAL RESULTS REPORT

for

Ground Water Protection Program

Richland, WA 99352

Attention: Steve Trent

Analytical: 

Client Services: 

*All results are reported on an "as received" basis unless otherwise noted in the comment section.*

Confidentiality Notice: The information contained in this report is privileged and confidential information intended only for the use of the addressee. If the reader of this report is not the intended recipient, or the employee or agent responsible to deliver it to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by telephone at (509) 373-7020.

Contract#: F03-006  
Report#: WSCF20031117  
Report Date: 15-sep-2003  
Report W004/ver. 5.2  
Ground Water Protection Program

# WSCF ANALYTICAL RESULTS REPORT

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**Attention:** Steve Trent  
**Project:** F03-006: 200-PW-2/PW-4

**Group #:** WSCF20031117

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF		Result	Unit	DF	MDL	Analyze Sample Receive		
					Method	RQ					09/09/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT 57-12-5	Cyanide	SOIL	LA-695-402	U	< 0.200	mg/kg	1.00	0.20	09/09/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT NH4-N	Nitrogen in ammonium	SOIL	LA-503-401	U	< 0.200	mg/kg	50.00	0.20	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT TS	Total solids	SOIL	LA-519-412		96.2	%	1.00	0.0	08/27/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT PH	pH Measurement	SOIL	LA-212-411		9.19	pH	1.00	0.010	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT 60-29-7	Diethyl ether	SOIL	Organics	U	< 5.00e+03	ug/kg	1.00	5.0e+03	08/26/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT 67-56-1	Methanol	SOIL	Organics	U	< 1.00e+03	ug/kg	1.00	1.0e+03	08/26/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT 107-21-1	Ethylene glycol	SOIL	Organics	U	< 5.00e+03	ug/kg	1.00	5.0e+03	08/26/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT 14596-10-2	Americium-241	SOIL	LA-508-471	U	0.0220	pCi/g	1.00	0.051	08/25/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT E,T,C	Am-241 by AEA Total Cntg Error	SOIL	LA-508-471		+ - 0.0310	pCi/g	1.00	0.0	08/25/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT 16984-48-8	Fluoride	SOIL	LA-533-410		0.975	mg/kg	50.00	0.35	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT 16887-00-6	Chloride	SOIL	LA-533-410		2.06	mg/kg	50.00	0.70	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT NO2-N	Nitrogen in Nitrite	SOIL	LA-533-410	U	< 0.450	mg/kg	50.00	0.45	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT NO3-N	Nitrogen in Nitrate	SOIL	LA-533-410		15.2	mg/kg	50.00	0.25	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT 14265-44-2	Phosphate	SOIL	LA-533-410	U	< 0.650	mg/kg	50.00	0.65	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT 14808-79-8	Sulfate	SOIL	LA-533-410		7.47	mg/kg	50.00	1.2	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT 10198-40-0	Cobalt-60	SOIL	LA-508-462	U	7.01e-03	pCi/g	1.00	0.024	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT E,T,C	Co-60 Rel. Count Error (GEA)	SOIL	LA-508-462		+ - 0.0140	pCi/g	1.00	0.0	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT 14234-35-6	Antimony-125	SOIL	LA-508-462	U	5.92e-03	pCi/g	1.00	0.045	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT E,T,C	Sb-125 Rel. Count Error (GEA)	SOIL	LA-508-462		+ - 0.0260	pCi/g	1.00	0.0	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT 13967-70-9	Cesium-134	SOIL	LA-508-462		0.0401	pCi/g	1.00	0.025	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT E,T,C	Cs-134 Rel. Count Error (GEA)	SOIL	LA-508-462		+ - 0.0160	pCi/g	1.00	0.0	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT 10045-97-3	Cesium-137	SOIL	LA-508-462	U	-3.25e-03	pCi/g	1.00	0.020	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT E,T,C	Cs-137 Rel. Count Error (GEA)	SOIL	LA-508-462		+ - 0.0110	pCi/g	1.00	0.0	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT 14683-23-9	Europium-152	SOIL	LA-508-462	U	-9.99e-03	pCi/g	1.00	0.043	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT E,T,C	Eu-152 Rel. Count Error (GEA)	SOIL	LA-508-462		+ - 0.0280	pCi/g	1.00	0.0	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT 15585-10-1	Europium-154	SOIL	LA-508-462	U	-0.0105	pCi/g	1.00	0.072	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT E,T,C	Eu-154 Rel. Count Error (GEA)	SOIL	LA-508-462		+ - 0.0430	pCi/g	1.00	0.0	08/18/03	08/13/03	08/13/03

**MDL=Minimum Detection Limit**  
**RQ=Result Qualifier**

J - Estimated Value

U - Analyzed for but not detected above limiting criteria.

**DF=Dilution Factor**

\* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

Report WGPP/ver. 1

Ground Water Protection Program

# WSCF ANALYTICAL RESULTS REPORT

2-3

**Attention:** Steve Trent  
**Project:** F03-006: 200-PW-2/PW-4

**Group #:** WSCF20031117

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF		Result	Unit	DF	MDL	Analyze Sample Receive			
					Method	RQ								
W030000709	B173V6	GPP TRENT	14391-16-3	Europium-155	SOIL	LA-508-462	U	0.0376	pCi/g	1.00	0.051	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	E,T,C	Eu-155 Rel. Count Error (GEA)	SOIL	LA-508-462		+- 0.0290	pCi/g	1.00	0.0	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	15832-50-5	Tin-126	SOIL	LA-508-462	U	0.118	pCi/g	1.00	0.12	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	E,T,C	Sn-126 Rel. Count Error (GEA)	SOIL	LA-508-462		+- 0.0360	pCi/g	1.00	0.0	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	15262-20-1	Radium-228	SOIL	LA-508-462		0.611	pCi/g	1.00	0.069	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	E,T,C	Ra-228 Rel. Count Error (GEA)	SOIL	LA-508-462		+- 0.133	pCi/g	1.00	0.0	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	13982-63-3	Radium-226	SOIL	LA-508-462		0.416	pCi/g	1.00	0.035	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	E,T,C	Ra-226 Rel. Count Error (GEA)	SOIL	LA-508-462		+- 0.0790	pCi/g	1.00	0.0	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	13982-39-3	Zinc-65	SOIL	LA-508-462	U	0.0437	pCi/g	1.00	0.052	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	E,T,C	Zn-65 Rel. Count Error (GEA)	SOIL	LA-508-462		+- 0.0530	pCi/g	1.00	0.0	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	14681-63-1	Niobium-94	SOIL	LA-508-462	U	6.73e-03	pCi/g	1.00	0.018	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	E,T,C	Nb-94 Rel. Count Error (GEA)	SOIL	LA-508-462		+- 0.0100	pCi/g	1.00	0.0	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	13968-53-1	Ruthenium-103	SOIL	LA-508-462	U	-4.40e-04	pCi/g	1.00	0.016	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	E,T,C	Ru-103 Rel. Count Error (GEA)	SOIL	LA-508-462		+- 4.00e-03	pCi/g	1.00	0.0	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	13967-48-1	Ruthenium-106	SOIL	LA-508-462	U	-0.105	pCi/g	1.00	0.16	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	E,T,C	Ru-106 Rel. Count Error (GEA)	SOIL	LA-508-462		+- 0.105	pCi/g	1.00	0.0	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	13966-06-8	Tin-113	SOIL	LA-508-462	U	-5.21e-03	pCi/g	1.00	0.020	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	E,T,C	Sn-113 Rel. Count Error (GEA)	SOIL	LA-508-462		+- 0.0120	pCi/g	1.00	0.0	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	14762-78-8	Cerium-144	SOIL	LA-508-462	U	-0.0212	pCi/g	1.00	0.089	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	E,T,C	Ce-144 Rel. Count Error (GEA)	SOIL	LA-508-462		+- 0.0560	pCi/g	1.00	0.0	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	14913-50-9	Thallium-208	SOIL	LA-508-462		0.157	pCi/g	1.00	0.017	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	E,T,C	Tl-208 Rel. Count Error (GEA)	SOIL	LA-508-462		+- 0.0310	pCi/g	1.00	0.0	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	14913-49-6	Bismuth-212	SOIL	LA-508-462		0.442	pCi/g	1.00	0.14	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	E,T,C	Bi-212 Rel. Count Error (GEA)	SOIL	LA-508-462		+- 0.165	pCi/g	1.00	0.0	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	15092-94-1	Lead-212	SOIL	LA-508-462		0.537	pCi/g	1.00	0.025	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	E,T,C	Pb-212 Rel. Count Error (GEA)	SOIL	LA-508-462		+- 0.0740	pCi/g	1.00	0.0	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	14733-03-0	Bismuth-214	SOIL	LA-508-462		0.416	pCi/g	1.00	0.035	08/18/03	08/13/03	08/13/03

**MDL=Minimum Detection Limit**  
**RQ=Result Qualifier**

J - Estimated Value

U - Analyzed for but not detected above limiting criteria.

**DF=Dilution Factor**

\* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

Report WGPP/ver. 1

Ground Water Protection Program

# WSCF ANALYTICAL RESULTS REPORT

**Attention:  
Project:**

Steve Trent  
F03-006: 200-PW-2/PW-4

**Group #:** WSCF20031117

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive	
W030000709	B173V6	GPP	TRENT	E,T,C	Bi-214 Rel. Count Error (GEA)	SOIL	LA-508-462	+ - 0.0790	pCi/g	1.00	0.0	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	15067-28-4	Lead-214	SOIL	LA-508-462	0.475	pCi/g	1.00	0.032	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	E,T,C	Pb-214 Rel. Count Error (GEA)	SOIL	LA-508-462	+ - 0.0780	pCi/g	1.00	0.0	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	14331-83-0	Actinium-228	SOIL	LA-508-462	0.611	pCi/g	1.00	0.069	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	E,T,C	Ac-228 Rel. Count Error (GEA)	SOIL	LA-508-462	+ - 0.133	pCi/g	1.00	0.0	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	15065-10-8	Thorium-234	SOIL	LA-508-462	U 0.351	pCi/g	1.00	0.84	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	E,T,C	Th-234 Rel. Count Error (GEA)	SOIL	LA-508-462	+ - 0.586	pCi/g	1.00	0.0	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	15117-96-1	Uranium-235	SOIL	LA-508-462	U 0.0476	pCi/g	1.00	0.097	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	E,T,C	U-235 Rel. Count Error (GEA)	SOIL	LA-508-462	+ - 0.0240	pCi/g	1.00	0.0	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	14596-10-2	Americium-241	SOIL	LA-508-462	U 0.0225	pCi/g	1.00	0.099	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	E,T,C	Am-241 Rel Count Error (GEA)	SOIL	LA-508-462	+ - 0.0600	pCi/g	1.00	0.0	08/18/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	7440-69-9	Bismuth	SOIL	LA-505-411	U < 5.06	mg/kg	1.00	5.1	09/09/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	7440-42-8	Boron	SOIL	LA-505-411	U < 5.06	mg/kg	1.00	5.1	09/09/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	7440-36-0	Antimony	SOIL	LA-505-412	U < 4.98	mg/kg	9.95	5.0	09/08/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	7440-38-2	Arsenic	SOIL	LA-505-412	U < 2.98	mg/kg	9.95	3.0	09/08/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	7440-39-3	Barium	SOIL	LA-505-412	50.8	mg/kg	9.95	2.0	09/08/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	7440-41-7	Beryllium	SOIL	LA-505-412	U < 2.98	mg/kg	9.95	3.0	09/08/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	7440-47-3	Chromium	SOIL	LA-505-412	19.7	mg/kg	9.95	3.0	09/08/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	7440-50-8	Copper	SOIL	LA-505-412	9.41	mg/kg	9.95	5.0	09/08/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	7439-92-1	Lead	SOIL	LA-505-412	U < 11.9	mg/kg	9.95	12	09/08/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	7440-02-0	Nickel	SOIL	LA-505-412	13.9	mg/kg	9.95	5.0	09/08/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	7440-22-4	Silver	SOIL	LA-505-412	U < 1.99	mg/kg	9.95	2.0	09/08/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	7440-61-1	Uranium	SOIL	LA-505-412	U < 0.995	mg/kg	9.95	1.0	09/08/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	7439-97-6	Mercury	SOIL	LA-505-412	U < 0.995	mg/kg	9.95	1.0	09/08/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	TPHGASOLINE	Total Pet. Hydrocarbons Gas	SOIL	NWTPH	U < 250	ug/kg	1.00	2.5e + 02	08/25/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	12674-11-2	Aroclor-1016	SOIL	LA-523-427	U < 45.0	ug/kg	1.00	45	08/25/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	11104-28-2	Aroclor-1221	SOIL	LA-523-427	U < 91.0	ug/kg	1.00	91	08/25/03	08/13/03	08/13/03

**MDL=Minimum Detection Limit**

J - Estimated Value

U - Analyzed for but not detected above limiting criteria.

**RQ=Result Qualifier**

**DF=Dilution Factor**

\* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

Report WGPP/ver. 1

Ground Water Protection Program

# WSCF ANALYTICAL RESULTS REPORT

2 - 5

**Attention:**  
**Project:**

Steve Trent  
F03-006: 200-PW-2/PW-4

**Group #:** WSCF20031117

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF		Result	Unit	DF	MDL	Analyze Sample Receive					
					Method	RQ										
W030000709	B173V6	GPP	TRENT	11141-16-5	Aroclor-1232	SOIL	LA-523-427	U	<	45.0	ug/kg	1.00	45	08/25/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	53469-21-9	Aroclor-1242	SOIL	LA-523-427	U	<	45.0	ug/kg	1.00	45	08/25/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	12672-29-6	Aroclor-1248	SOIL	LA-523-427	U	<	45.0	ug/kg	1.00	45	08/25/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	11097-69-1	Aroclor-1254	SOIL	LA-523-427	U	<	45.0	ug/kg	1.00	45	08/25/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	11096-82-5	Aroclor-1260	SOIL	LA-523-427	U	<	45.0	ug/kg	1.00	45	08/25/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	37324-23-5	Aroclor-1262	SOIL	LA-523-427	U	<	45.0	ug/kg	1.00	45	08/25/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	11100-14-4	Aroclor-1268	SOIL	LA-523-427	U	<	45.0	ug/kg	1.00	45	08/25/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	13981-16-3	Plutonium-238	SOIL	LA-508-471	U		2.10e-03	pCi/g	1.00	0.040	08/22/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	E,T,C	Pu-238 by AEA Total Cntg Error	SOIL	LA-508-471		+-	2.00e-03	pCi/g	1.00	0.0	08/22/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	PU-239/240	Pu-239/240 by AEA	SOIL	LA-508-471	U		6.30e-03	pCi/g	1.00	0.016	08/22/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	E,T,C	Pu-239/240 AEA Total Cntg Err	SOIL	LA-508-471		+-	9.00e-03	pCi/g	1.00	0.0	08/22/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	100-02-7	4-Nitrophenol	SOIL	LA-523-456	U	<	670	ug/kg	1.00	6.7e+02	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	106-46-7	1,4-Dichlorobenzene	SOIL	LA-523-456	U	<	320	ug/kg	1.00	3.2e+02	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	108-95-2	Phenol	SOIL	LA-523-456	U	<	100	ug/kg	1.00	1.0e+02	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	120-82-1	1,2,4-Trichlorobenzene	SOIL	LA-523-456	U	<	300	ug/kg	1.00	3.0e+02	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	121-14-2	2,4-Dinitrotoluene	SOIL	LA-523-456	U	<	69.0	ug/kg	1.00	69	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	129-00-0	Pyrene	SOIL	LA-523-456	U	<	69.0	ug/kg	1.00	69	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	59-50-7	4-Chloro-3-methylphenol	SOIL	LA-523-456	U	<	69.0	ug/kg	1.00	69	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	621-64-7	N-Nitrosodi-n-dipropylamine	SOIL	LA-523-456	U	<	69.0	ug/kg	1.00	69	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	83-32-9	Acenaphthene	SOIL	LA-523-456	U	<	69.0	ug/kg	1.00	69	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	87-86-5	Pentachlorophenol	SOIL	LA-523-456	U	<	310	ug/kg	1.00	3.1e+02	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	95-57-8	2-Chlorophenol	SOIL	LA-523-456	U	<	150	ug/kg	1.00	1.5e+02	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	100-01-6	4-Nitroaniline	SOIL	LA-523-456	U	<	260	ug/kg	1.00	2.6e+02	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	101-55-3	4-Bromophenylphenyl ether	SOIL	LA-523-456	U	<	69.0	ug/kg	1.00	69	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	105-67-9	2,4-Dimethylphenol	SOIL	LA-523-456	U	<	69.0	ug/kg	1.00	69	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	106-47-8	4-Chloroaniline	SOIL	LA-523-456	U	<	97.0	ug/kg	1.00	97	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	108-60-1	Bis(2-chloro-1-methylethyl)eth	SOIL	LA-523-456	U	<	260	ug/kg	1.00	2.6e+02	08/20/03	08/13/03	08/13/03

**MDL=Minimum Detection Limit**

J - Estimated Value

U - Analyzed for but not detected above limiting criteria.

**RQ=Result Qualifier**

**DF=Dilution Factor**

\* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

Report WGPP/ver. 1

Ground Water Protection Program

# WSCF ANALYTICAL RESULTS REPORT

2-6

**Attention:**  
**Project:**

Steve Trent  
F03-006: 200-PW-2/PW-4

**Group #:** WSCF20031117

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF			Result	Unit	DF	MDL	Analyze Sample Receive				
					Method	RQ										
W030000709	B173V6	GPP	TRENT	111-44-4	Bis(2-chloroethyl) ether	SOIL	LA-523-456	U	<	260	ug/kg	1.00	2.6e+02	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	111-91-1	Bis(2-Chloroethoxy)methane	SOIL	LA-523-456	U	<	120	ug/kg	1.00	1.2e+02	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	117-81-7	Bis(2-ethylhexyl) phthalate	SOIL	LA-523-456	U	<	580	ug/kg	1.00	5.8e+02	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	117-84-0	Di-n-octylphthalate	SOIL	LA-523-456	U	<	69.0	ug/kg	1.00	69	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	118-74-1	Hexachlorobenzene	SOIL	LA-523-456	U	<	69.0	ug/kg	1.00	69	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	120-12-7	Anthracene	SOIL	LA-523-456	U	<	69.0	ug/kg	1.00	69	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	120-83-2	2,4-Dichlorophenol	SOIL	LA-523-456	U	<	83.0	ug/kg	1.00	83	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	131-11-3	Dimethyl phthalate	SOIL	LA-523-456	U	<	69.0	ug/kg	1.00	69	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	132-64-9	Dibenzofuran	SOIL	LA-523-456	U	<	69.0	ug/kg	1.00	69	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	191-24-2	Benzo(ghi)perylene	SOIL	LA-523-456	U	<	69.0	ug/kg	1.00	69	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	193-39-5	Indeno(1,2,3-cd)pyrene	SOIL	LA-523-456	U	<	69.0	ug/kg	1.00	69	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	205-99-2	Benzo(b)fluoranthene	SOIL	LA-523-456	U	<	69.0	ug/kg	1.00	69	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	206-44-0	Fluoranthene	SOIL	LA-523-456	U	<	69.0	ug/kg	1.00	69	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	207-08-9	Benzo(k)fluoranthene	SOIL	LA-523-456	U	<	69.0	ug/kg	1.00	69	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	208-96-8	Acenaphthylene	SOIL	LA-523-456	U	<	83.0	ug/kg	1.00	83	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	218-01-9	Chrysene	SOIL	LA-523-456	U	<	69.0	ug/kg	1.00	69	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	50-32-8	Benzo(a)pyrene	SOIL	LA-523-456	U	<	69.0	ug/kg	1.00	69	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	51-28-5	2,4-Dinitrophenol	SOIL	LA-523-456	U	<	690	ug/kg	1.00	6.9e+02	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	53-70-3	Dibenz(a,h)anthracene	SOIL	LA-523-456	U	<	69.0	ug/kg	1.00	69	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	534-52-1	4,6-Dinitro-2-methylphenol	SOIL	LA-523-456	U	<	690	ug/kg	1.00	6.9e+02	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	541-73-1	1,3-Dichlorobenzene	SOIL	LA-523-456	U	<	330	ug/kg	1.00	3.3e+02	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	56-55-3	Benzo(a)anthracene	SOIL	LA-523-456	U	<	69.0	ug/kg	1.00	69	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	606-20-2	2,6-Dinitrotoluene	SOIL	LA-523-456	U	<	69.0	ug/kg	1.00	69	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	7005-72-3	4-Chlorophenylphenyl ether	SOIL	LA-523-456	U	<	69.0	ug/kg	1.00	69	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	77-47-4	Hexachlorocyclopentadiene	SOIL	LA-523-456	U	<	320	ug/kg	1.00	3.2e+02	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	78-59-1	Isophorone	SOIL	LA-523-456	J		500	ug/kg	1.00	69	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	84-66-2	Diethylphthalate	SOIL	LA-523-456	U	<	190	ug/kg	1.00	1.9e+02	08/20/03	08/13/03	08/13/03

**MDL=Minimum Detection Limit**  
**RQ=Result Qualifier**

J - Estimated Value

U - Analyzed for but not detected above limiting criteria.

**DF=Dilution Factor**

\* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

Report WGPP/ver. 1

Ground Water Protection Program

# WSCF ANALYTICAL RESULTS REPORT

2-7

**Attention:** Steve Trent  
**Project:** F03-006: 200-PW-2/PW-4

**Group #:** WSCF20031117

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF			Result	Unit	DF	MDL	Analyze Sample Receive			
					Method	RQ									
W030000709	B173V6	GPP TRENT	84-74-2	Di-n-butylphthalate	SOIL	LA-523-456	U	<	90.0	ug/kg	1.00	90	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	85-01-8	Phenanthrene	SOIL	LA-523-456	U	<	69.0	ug/kg	1.00	69	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	85-68-7	Butylbenzylphthalate	SOIL	LA-523-456	U	<	69.0	ug/kg	1.00	69	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	86-30-6	N-Nitrosodiphenylamine	SOIL	LA-523-456	U	<	69.0	ug/kg	1.00	69	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	86-73-7	Fluorene	SOIL	LA-523-456	U	<	69.0	ug/kg	1.00	69	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	86-74-8	Carbazole	SOIL	LA-523-456	U	<	83.0	ug/kg	1.00	83	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	87-68-3	Hexachlorobutadiene	SOIL	LA-523-456	U	<	380	ug/kg	1.00	3.8e+02	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	88-74-4	2-Nitroaniline	SOIL	LA-523-456	U	<	69.0	ug/kg	1.00	69	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	88-75-5	2-Nitrophenol	SOIL	LA-523-456	U	<	180	ug/kg	1.00	1.8e+02	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	91-20-3	Naphthalene	SOIL	LA-523-456	U	<	300	ug/kg	1.00	3.0e+02	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	91-57-6	2-Methylnaphthalene	SOIL	LA-523-456	U	<	190	ug/kg	1.00	1.9e+02	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	91-58-7	2-Chloronaphthalene	SOIL	LA-523-456	U	<	69.0	ug/kg	1.00	69	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	91-94-1	3,3'-Dichlorobenzidine	SOIL	LA-523-456	U	<	83.0	ug/kg	1.00	83	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	95-48-7	2-Methylphenol (cresol, o-)	SOIL	LA-523-456	U	<	69.0	ug/kg	1.00	69	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	95-50-1	1,2-Dichlorobenzene	SOIL	LA-523-456	U	<	370	ug/kg	1.00	3.7e+02	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	95-95-4	2,4,5-Trichlorophenol	SOIL	LA-523-456	U	<	76.0	ug/kg	1.00	76	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	98-95-3	Nitrobenzene	SOIL	LA-523-456	U	<	270	ug/kg	1.00	2.7e+02	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	99-09-2	3-Nitroaniline	SOIL	LA-523-456	U	<	69.0	ug/kg	1.00	69	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	65794-96-9	3 & 4 Methylphenol Total	SOIL	LA-523-456	U	<	120	ug/kg	1.00	1.2e+02	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	67-72-1	Hexachloroethane	SOIL	LA-523-456	U	<	480	ug/kg	1.00	4.8e+02	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	88-06-2	2,4,6-Trichlorophenol	SOIL	LA-523-456	U	<	69.0	ug/kg	1.00	69	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	111-76-2	2-Butoxyethanol	SOIL	LA-523-456	U	<	100	ug/kg	1.00	1.0e+02	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	126-73-8	Tributyl phosphate	SOIL	LA-523-456	U	<	69.0	ug/kg	1.00	69	08/20/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	U-233/234	Uranium-233/234	SOIL	LA-508-471			0.150	pCi/g	1.00	0.012	08/22/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	E,T,C	U-233/234 AEA Total Cntg Error	SOIL	LA-508-471		+-	0.0500	pCi/g	1.00	0.0	08/22/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	15117-96-1	Uranium-235	SOIL	LA-508-471			0.0130	pCi/g	1.00	4.9e-03	08/22/03	08/13/03	08/13/03
W030000709	B173V6	GPP TRENT	E,T,C	U-235 by AEA Total Cntg Error	SOIL	LA-508-471		+-	0.0100	pCi/g	1.00	0.0	08/22/03	08/13/03	08/13/03

**MDL=Minimum Detection Limit**  
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**DF=Dilution Factor**

\* - Indicates results that have NOT been validated; + - indicates more than six qualifier symbols

Report WGPP/ver. 1

Ground Water Protection Program

# WSCF ANALYTICAL RESULTS REPORT

**Attention:**  
**Project:**

Steve Trent  
F03-006: 200-PW-2/PW-4

**Group #:** WSCF20031117

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF		Result	Unit	DF	MDL	Analyze	Sample	Receive	
					Method	RQ								
W030000709	B173V6	GPP	TRENT	U-238	Uranium-238	SOIL	LA-508-471	0.140	pCi/g	1.00	4.5e-03	08/22/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	E,T,C	U-238 by AEA Total Cntg Error	SOIL	LA-508-471	+ - 0.0460	pCi/g	1.00	0.10	08/22/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	TPHDIESEL	Total Pet. Hydrocarbons Diesel	SOIL	NWTPH	U	< 3.90e + 03	ug/kg	3.9e + 03	08/22/03	08/13/03	08/13/03
W030000709	B173V6	GPP	TRENT	TPHKEROSENE	Kerosene	SOIL	NWTPH	U	< 3.90e + 03	ug/kg	3.9e + 03	08/22/03	08/13/03	08/13/03

**MDL=Minimum Detection Limit**  
**RQ=Result Qualifier**

J - Estimated Value

U - Analyzed for but not detected above limiting criteria.

**DF=Dilution Factor**

\* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

Report WGPP/ver. 1

Ground Water Protection Program

# WSCF ANALYTICAL COMMENT REPORT

2-9

Attention: Steve Trent  
Project Number F03-006

Group #: WSCF20031117

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		<p>PCB/SVOC/TPHD: All results are moisture corrected and reported on a dry weight basis. cgc</p> <p>SVOC: J-flag of target compound indicates that its concentration is below the concentration of the lowest calibration standard, but above the method detection limit. Pentachlorophenol is out low in the MS. den</p> <p>8015: Spike-RPD high for the surrogate, 2-Bromoethanol marked as high at 24%.gar</p> <p>W030000709 for U-ISO test had poor RPD. RPD does not apply to low level samples.</p> <p>The PU/AM test had poor RPD. RPD is not applicable to low level samples.</p> <p>ICP-MS: High silver LCS recovery using 200.8 method criteria. This result is within manufacturer specifications so no data qualifier required.</p> <p>ICP-AES: Low Bismuth recovery LCS. No flags given as MS and MSD were within limits. ldl</p>

Lab Areas: VALGROUP - Group Validation  
LOGSAMP - Login for Sample

VALTEST - Test Validation  
LOGTEST - Login for Tests

TESTDATA - Test Data Entry

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# WSCF

## TENTATIVELY IDENTIFIED PEAK REPORT

2 - 10

Attention: Steve Trent  
 Project Number F03-006 :200-PW-2/PW-4

Group #: WSCF20031117

Sample #	Client ID		Test Name	Peak Name	CAS#	RT	RQ	Result	Units	
W030000709	B173V6	GPP	TRENT	Gamma Energy Analysis-grd H2O	K-40 Count Error			12	%	
W030000709	B173V6	GPP	TRENT	Gamma Energy Analysis-grd H2O	K-40			16	pCi/g	
W030000709	B173V6	GPP	TRENT	SW-846 8270B Semi-Vols	SMP 6.204 Unknown	Unknown	6.204683	J	1.4e+02	ug/kg
W030000709	B173V6	GPP	TRENT	SW-846 8270B Semi-Vols	SMP 22.969 Unknown	Unknown	22.96958	J	1.6e+02	ug/kg
W030000709	B173V6	GPP	TRENT	SW-846 8270B Semi-Vols	SMP 5.734 Unknown	Unknown	5.734733	J	1.6e+02	ug/kg
W030000709	B173V6	GPP	TRENT	SW-846 8270B Semi-Vols	SMP 6.255 Unknown	Unknown	6.255766	J	1.6e+03	ug/kg
W030000709	B173V6	GPP	TRENT	SW-846 8270B Semi-Vols	SMP 6.337 Unknown	Unknown	6.3375	J	1.9e+02	ug/kg
W030000709	B173V6	GPP	TRENT	SW-846 8270B Semi-Vols	SMP 4.764 Unknown	Unknown	4.764183	J	2.3e+02	ug/kg
W030000709	B173V6	GPP	TRENT	SW-846 8270B Semi-Vols	SMP 5.939 2-Cyclohexen-1-one, 3-	1193-18-6	5.93905	J	4.3e+02	ug/kg
W030000709	B173V6	GPP	TRENT	SW-846 8270B Semi-Vols	SMP 12.988 Benzenesulfonamide, N-	3622-84-2	12.98828	J	4.6e+02	ug/kg
W030000709	B173V6	GPP	TRENT	SW-846 8270B Semi-Vols	SMP 4.876 Unknown	Unknown	4.876566	J	5.1e+02	ug/kg

RQ = Result Qualifier      J - Estimated Value

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*Ground Water Protection Program*

WGPPE v 0 Report#: 20031117

Report Date: 15-sep-2003

Page 1

# WSCF

## METHOD REFERENCES REPORT

The results provided in this report were generated using the following WSCF Laboratory procedures. For your convenience, this table provides a listing of the regulatory or industry methods that are referenced by each of these WSCF procedures. Please note that the most recent version of the regulatory or industry method is listed here even though the WSCF procedure may reference an older version of the method. Also, a reference to a regulatory or industry method here does not necessarily indicate a verbatim implementation of that method.

LA-212-411	Determination of Soil pH Measurement EPA SW-846 9045C	SOIL AND WASTE pH
LA-503-401	LA-503-401: ANALYSIS OF CATIONS BY ION CHROMATOGRAPHY EPA-600/4-86-024 300.7	Dissolved Sodium, Ammonium, Potassium, and Calcium in Wet Deposition by Chemical
LA-505-411	LA-505-411: ELEMENTAL ANALYSIS BY INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPE EPA SW-846 6010B	INDUCTIVELY COUPLED PLASMA-ATOMIC EMISSION SPECTROMETRY
LA-505-412	LA-505-412: DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY EPA-600/R-94-111 200.8	DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY COUPLED PLAS
LA-508-462	Gamma Energy Analysis -- the Genie System -- WSCF None	No reference to any industry method.
LA-508-471	LA-508-471: ALPHA ENERGY ANALYZER DATA ACQUISITION AND SYSTEM CHECKOUT USING ALP None	No reference to any industry method.
LA-519-412	LA-519-412: TOTAL RESIDUE/% SOLIDS DRIED AT 103 - 105 C EPA-600/4-79-020 160.3 Standard Methods 2540B	RESIDUE, TOTAL Total Solids Dried at 103-105 C
LA-523-427	LA-523-427: POLYCHLORINATED BIPHENYLS (PCBs) BY GAS CHROMATOGRAPHY EPA SW-846 3510C EPA SW-846 3545	SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION PRESSURIZED FLUID EXTRACTION (PFE)

Note: A complete list of WSCF analytical procedures and referenced regulatory or industry methods is available online at <http://apweb02/asponlinedocs/wscf/sample%20mgmt/ProcedureMethodCrossReference.pdf>. This document includes on-line links to full-text versions of the procedures and methods, where available.

Report Date: 15-sep-2003

Report#: WSCF20031117

Report WGPPM/O

# WSCF

## METHOD REFERENCES REPORT

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	EPA SW-846 3665A	SULFURIC ACID/PERMANGANATE CLEANUP
	EPA SW-846 8000B	DETERMINATIVE CHROMATOGRAPHIC SEPARATIONS
	EPA SW-846 8082	POLYCHLORINATED BIPHENYLS (PCBs) BY GAS CHROMATOGRAPHY
LA-523-456	LA-523-456: SEMIVOLATILE SAMPLE ANALYSIS BY SW-846, METHOD 8270C	
	EPA SW-846 8000B	DETERMINATIVE CHROMATOGRAPHIC SEPARATIONS
	EPA SW-846 8270C	SEMIVOLATILE ORGANIC COMPOUNDS BY GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)
LA-533-410	LA-533-410: ANION ANALYSIS BY ION CHROMATOGRAPHY	
	EPA-600/R-94-111 300	DETERMINATION OF INORGANIC ANIONS BY ION CHROMATOGRAPHY
LA-695-402	LA-695-402: DETERMINATION OF CYANIDE BY MIDIDISTILLATION AND SPECTROPHOTOMETRIC	
	EPA-600/4-79-020 335.2	Cyanide, Total
NWTPH	NWTPH-Diesel and/or Gasoline	
	WDOE NWTPH-Dx/Gx	Total Petroleum Hydrocarbons - Diesel/Gasoline
Organics	Organics - Alcohols, Glycols	
	EPA SW-846 8015B	Nonhalogenated Organics Using GC/FID

Note: A complete list of WSCF analytical procedures and referenced regulatory or industry methods is available online at <http://apweb02/asponlinedocs/wscf/sample%20mgmt/ProcedureMethodCrossReference.pdf>. This document includes on-line links to full-text versions of the procedures and methods, where available.

Report Date: 15-sep-2003

Report#: WSCF20031117

Report WGPPM/O

## W13q Worklist/Batch/QC Report for Group# WSCF20031117

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
				SAMPLE	W030000709	Percent Solids
				SAMPLE	W030000709	pH Soil and Waste Measurement
20102	1	20487	23301	SAMPLE	W030000709	Gamma Energy Analysis-grd H2O
20127	3	20511	23325	BLNK-PREP		Ammonia (N) by IC
20127	8	20511	23325	BLNK-PREP		Ammonia (N) by IC
20127	1	20511	23325	LCS		Ammonia (N) by IC
20127	5	20511	23325	DUP	W030000709	Ammonia (N) by IC
20127	6	20511	23325	MS	W030000709	Ammonia (N) by IC
20127	7	20511	23325	MSD	W030000709	Ammonia (N) by IC
20127	4	20511	23325	SAMPLE	W030000709	Ammonia (N) by IC
20131	2	20515	23331	BLANK		Anions by Ion Chromatography
20131	8	20515	23331	BLANK		Anions by Ion Chromatography
20131	3	20515	23331	LCS		Anions by Ion Chromatography
20131	5	20515	23331	DUP	W030000709	Anions by Ion Chromatography
20131	6	20515	23331	MS	W030000709	Anions by Ion Chromatography
20131	7	20515	23331	MSD	W030000709	Anions by Ion Chromatography
20131	4	20515	23331	SAMPLE	W030000709	Anions by Ion Chromatography
20145	1	20531	23334	BLANK		Uranium Isotopics by AEA
20145	2	20531	23334	LCS		Uranium Isotopics by AEA
20145	3	20531	23334	DUP	W030000709	Uranium Isotopics by AEA
20145	4	20531	23334	SAMPLE	W030000709	Uranium Isotopics by AEA
			23341	BLANK		PCBs complete list
			23341	LCS		PCBs complete list
			23341	MS	W030000704	PCBs complete list
			23341	MSD	W030000704	PCBs complete list
			23341	MS	W030000709	PCBs complete list
			23341	MSD	W030000709	PCBs complete list
			23341	SAMPLE	W030000709	PCBs complete list
			23341	SPK-RPD	W030000709	PCBs complete list
			23341	SURR	W030000709	PCBs complete list
			23342	BLANK		WTPH-D TPH Diesel Range (Wa)
			23342	LCS		WTPH-D TPH Diesel Range (Wa)
			23342	MS	W030000705	WTPH-D TPH Diesel Range (Wa)
			23342	MSD	W030000705	WTPH-D TPH Diesel Range (Wa)
			23342	MS	W030000709	WTPH-D TPH Diesel Range (Wa)
			23342	MSD	W030000709	WTPH-D TPH Diesel Range (Wa)
			23342	SAMPLE	W030000709	WTPH-D TPH Diesel Range (Wa)
			23342	SPK-RPD	W030000709	WTPH-D TPH Diesel Range (Wa)
			23342	SURR	W030000709	WTPH-D TPH Diesel Range (Wa)
20146	1	20530	23373	BLANK		Americium by AEA
20146	2	20530	23373	LCS		Americium by AEA
20146	3	20530	23373	DUP	W030000709	Americium by AEA
20146	4	20530	23373	SAMPLE	W030000709	Americium by AEA
20147	1	20529	23374	BLANK		Plutonium Isotopics by AEA
20147	2	20529	23374	LCS		Plutonium Isotopics by AEA
20147	3	20529	23374	DUP	W030000709	Plutonium Isotopics by AEA

20147	4	20529	23374	SAMPLE	W030000709	Plutonium Isotopics by AEA
			23394	BLANK		SW-846 8270B Semi-Vols
			23394	LCS		SW-846 8270B Semi-Vols
			23394	MS	W030000709	SW-846 8270B Semi-Vols
			23394	MSD	W030000709	SW-846 8270B Semi-Vols
			23394	SAMPLE	W030000709	SW-846 8270B Semi-Vols
			23394	SPK-RPD	W030000709	SW-846 8270B Semi-Vols
			23394	SURR	W030000709	SW-846 8270B Semi-Vols
20288	1	20668	23477	BLANK		ICP-2008 MS All possible metal
20288	2	20668	23477	LCS		ICP-2008 MS All possible metal
20288	4	20668	23477	MS	W030000701	ICP-2008 MS All possible metal
20288	5	20668	23477	MSD	W030000701	ICP-2008 MS All possible metal
20288	9	20668	23477	MS	W030000709	ICP-2008 MS All possible metal
20288	10	20668	23477	MSD	W030000709	ICP-2008 MS All possible metal
20288	8	20668	23477	SAMPLE	W030000709	ICP-2008 MS All possible metal
20288	12	20668	23477	MS	W030000775	ICP-2008 MS All possible metal
20288	13	20668	23477	MSD	W030000775	ICP-2008 MS All possible metal
20288	15	20668	23477	MS	W030000799	ICP-2008 MS All possible metal
20288	16	20668	23477	MSD	W030000799	ICP-2008 MS All possible metal
			23480	BLANK		Cyanide by Midi/Spectrophotom
			23480	BLNK-PREP		Cyanide by Midi/Spectrophotom
			23480	DUP		Cyanide by Midi/Spectrophotom
			23480	LCS		Cyanide by Midi/Spectrophotom
			23480	LCS-2		Cyanide by Midi/Spectrophotom
			23480	MS	W030000705	Cyanide by Midi/Spectrophotom
			23480	MSD	W030000705	Cyanide by Midi/Spectrophotom
			23480	SPK-RPD	W030000705	Cyanide by Midi/Spectrophotom
			23480	SAMPLE	W030000709	Cyanide by Midi/Spectrophotom
20308	1	20688	23515	BLANK		ICP Metals Analysis, Grd H20 P
20308	2	20688	23515	LCS		ICP Metals Analysis, Grd H20 P
20308	7	20688	23515	MS	W030000701	ICP Metals Analysis, Grd H20 P
20308	8	20688	23515	MSD	W030000701	ICP Metals Analysis, Grd H20 P
20308	4	20688	23515	MS	W030000709	ICP Metals Analysis, Grd H20 P
20308	5	20688	23515	MSD	W030000709	ICP Metals Analysis, Grd H20 P
20308	3	20688	23515	SAMPLE	W030000709	ICP Metals Analysis, Grd H20 P
20308	12	20688	23515	MS	W030000723	ICP Metals Analysis, Grd H20 P
20308	13	20688	23515	MSD	W030000723	ICP Metals Analysis, Grd H20 P
20308	0	20688	23515	SPK-RPD	W030000723	ICP Metals Analysis, Grd H20 P
20313	1	20693	23516	BLANK		NWTPH-GX TPH Gasoline Range
20313	2	20693	23516	LCS		NWTPH-GX TPH Gasoline Range
20313	4	20693	23516	MS	W030000709	NWTPH-GX TPH Gasoline Range
20313	5	20693	23516	MSD	W030000709	NWTPH-GX TPH Gasoline Range
20313	3	20693	23516	SAMPLE	W030000709	NWTPH-GX TPH Gasoline Range
20313	5	20693	23516	SPK-RPD	W030000709	NWTPH-GX TPH Gasoline Range
20314	1	20694	23517	BLANK		Alcohols, Glycols - 8015
20314	2	20694	23517	LCS		Alcohols, Glycols - 8015
20314	4	20694	23517	MS	W030000709	Alcohols, Glycols - 8015
20314	5	20694	23517	MSD	W030000709	Alcohols, Glycols - 8015
20314	3	20694	23517	SAMPLE	W030000709	Alcohols, Glycols - 8015
20314	5	20694	23517	SPK-RPD	W030000709	Alcohols, Glycols - 8015

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20031117  
 Matrix: SOLID  
 Test: Ammonia (N) by IC

SAF Number: F03-006  
 Sample Date: 08/13/03  
 Receive Date: 08/13/03

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
---------	---------	-------	----------	----------	-------	---------------	-------------	-------------	----

Lab ID: W030000709  
**BATCH QC ASSOCIATED WITH SAMPLE**

DUP	Ammonia (N) by IC	7664-41-7	<1.92e-1	n/a	RPD	08/20/03	0.000	20.000	U
MS	Ammonia (N) by IC	7664-41-7	1.52e-01	92.121	% Recov	08/20/03	75.000	125.000	
MSD	Ammonia (N) by IC	7664-41-7	1.50e-01	90.909	% Recov	08/20/03	75.000	125.000	

**BATCH QC**

BLNK-PREP	Ammonia (N) by IC	7664-41-7	<4.00e-3	n/a	Ratio	08/20/03			U
BLNK-PREP	Ammonia (N) by IC	7664-41-7	<4.00e-3	n/a	Ratio	08/20/03			U
LCS	Ammonia (N) by IC	7664-41-7	8.09e+01	97.587	% Recov	08/20/03	80.000	120.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

2-16

SDG Number: WSCF20031117  
 Matrix: SOLID  
 Test: Anions by Ion Chromatography

SAF Number: F03-006  
 Sample Date: 08/13/03  
 Receive Date: 08/13/03

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W030000709									
BATCH QC ASSOCIATED WITH SAMPLE									
DUP	Chloride	16887-00-6	2.26e+00	9.259	RPD	08/20/03	0.000	20.000	
DUP	Fluoride	16984-48-8	9.98e-01	2.331	RPD	08/20/03	0.000	20.000	
DUP	Nitrogen in Nitrite	NO2-N	<4.32e-1	n/a	RPD	08/20/03	0.000	20.000	U
DUP	Nitrogen in Nitrate	NO3-N	1.48e+01	2.667	RPD	08/20/03	0.000	20.000	
DUP	Phosphate	14265-44-2	<6.24e-1	n/a	RPD	08/20/03	0.000	20.000	U
DUP	Sulfate	14808-79-8	7.34e+00	1.756	RPD	08/20/03	0.000	20.000	
MS	Chloride	16887-00-6	9.95e-01	100.505	% Recov	08/20/03	75.000	125.000	
MS	Fluoride	16984-48-8	5.61e-01	114.724	% Recov	08/20/03	75.000	125.000	
MS	Nitrogen in Nitrite	NO2-N	4.94e-01	98.016	% Recov	08/20/03	75.000	125.000	
MS	Nitrogen in Nitrate	NO3-N	4.61e-01	103.363	% Recov	08/20/03	75.000	125.000	
MS	Phosphate	14265-44-2	8.73e-01	91.032	% Recov	08/20/03	75.000	125.000	
MS	Sulfate	14808-79-8	2.03e+00	103.046	% Recov	08/20/03	75.000	125.000	
MSD	Chloride	16887-00-6	9.92e-01	100.202	% Recov	08/20/03	75.000	125.000	
MSD	Fluoride	16984-48-8	5.67e-01	115.951	% Recov	08/20/03	75.000	125.000	
MSD	Nitrogen in Nitrite	NO2-N	4.95e-01	98.214	% Recov	08/20/03	75.000	125.000	
MSD	Nitrogen in Nitrate	NO3-N	4.66e-01	104.484	% Recov	08/20/03	75.000	125.000	
MSD	Phosphate	14265-44-2	8.78e-01	91.554	% Recov	08/20/03	75.000	125.000	
MSD	Sulfate	14808-79-8	2.03e+00	103.046	% Recov	08/20/03	75.000	125.000	
BATCH QC									
BLANK	Chloride	16887-00-6	<1.40e-2	n/a	mg/L	08/20/03	0.000	300.000	U
BLANK	Chloride	16887-00-6	<1.40e-2	n/a	mg/L	08/20/03	0.000	300.000	U
BLANK	Fluoride	16984-48-8	<7.00e-3	n/a	mg/L	08/20/03	0.000	300.000	U
BLANK	Fluoride	16984-48-8	<7.00e-3	n/a	mg/L	08/20/03	0.000	300.000	U
BLANK	Nitrogen in Nitrite	NO2-N	<9.00e-3	n/a	mg/L	08/20/03	0.000	300.000	U
BLANK	Nitrogen in Nitrite	NO2-N	<9.00e-3	n/a	mg/L	08/20/03	0.000	300.000	U

# WSCF ANALYTICAL LABORATORY QC REPORT

2-17

SDG Number: WSCF20031117  
 Matrix: SOLID  
 Test: Anions by Ion Chromatography

SAF Number: F03-006  
 Sample Date:  
 Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
BLANK	Nitrogen in Nitrate	NO3-N	<5.00e-3	n/a	mg/L	08/20/03	0.000	300.000	U
BLANK	Nitrogen in Nitrate	NO3-N	<5.00e-3	n/a	mg/L	08/20/03	0.000	300.000	U
BLANK	Phosphate	14265-44-2	<1.30e-2	n/a	mg/L	08/20/03	0.000	300.000	U
BLANK	Phosphate	14265-44-2	<1.30e-2	n/a	mg/L	08/20/03	0.000	300.000	U
BLANK	Sulfate	14808-79-8	<2.40e-2	n/a	mg/L	08/20/03	0.000	300.000	U
BLANK	Sulfate	14808-79-8	<2.40e-2	n/a	mg/L	08/20/03	0.000	300.000	U
LCS	Chloride	16887-00-6	1.93e+02	96.500	% Recov	08/20/03	80.000	120.000	
LCS	Fluoride	16984-48-8	1.07e+02	108.409	% Recov	08/20/03	80.000	120.000	
LCS	Nitrogen in Nitrite	NO2-N	9.76e+01	95.686	% Recov	08/20/03	80.000	120.000	
LCS	Nitrogen in Nitrate	NO3-N	8.72e+01	96.781	% Recov	08/20/03	80.000	120.000	
LCS	Phosphate	14265-44-2	1.84e+02	94.943	% Recov	08/20/03	80.000	120.000	
LCS	Sulfate	14808-79-8	3.95e+02	98.997	% Recov	08/20/03	80.000	120.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

2-18

SDG Number: WSCF20031117  
 Matrix: SOLID  
 Test: Uranium Isotopics by AEA

SAF Number: F03-006  
 Sample Date: 08/13/03  
 Receive Date: 08/13/03

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W030000709									
BATCH QC ASSOCIATED WITH SAMPLE									
DUP	Uranium-238	U-238	1.8e-01	25.000	RPD	08/22/03	0.000	20.000	
BATCH QC									
BLANK	Uranium-238	24678-82-8	1.1e-02	0.011	PCG	08/22/03	0.000	1000.000	
LCS	Uranium-238	24678-82-8	38.35	101.161	% Recov	08/22/03	75.000	125.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

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SDG Number: WSCF20031117  
 Matrix: SOLID  
 Test: PCBs complete list

SAF Number: F03-006  
 Sample Date: 08/13/03  
 Receive Date: 08/13/03

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
<b>Lab ID: W030000704</b>									
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>									
MS	Aroclor-1254	11097-69-1	895.94	100.000	% Recov	08/25/03	75.000	125.000	
MS	Decachlorobiphenyl	2051-24-3	951.83	106.000	% Recov	08/25/03	50.000	150.000	
MS	Tetrachloro-m-xylene	877-09-8	796.80	89.100	% Recov	08/25/03	50.000	150.000	
MSD	Aroclor-1254	11097-69-1	880.85	94.000	% Recov	08/25/03	75.000	125.000	
MSD	Decachlorobiphenyl	2051-24-3	926.67	98.900	% Recov	08/25/03	50.000	150.000	
MSD	Tetrachloro-m-xylene	877-09-8	810.77	86.500	% Recov	08/25/03	50.000	150.000	
<b>Lab ID: W030000709</b>									
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>									
MS	Aroclor-1254	11097-69-1	996.48	99.800	% Recov	08/25/03	75.000	125.000	
MS	Decachlorobiphenyl	2051-24-3	967.88	96.900	% Recov	08/25/03	50.000	150.000	
MS	Tetrachloro-m-xylene	877-09-8	849.16	85.000	% Recov	08/25/03	50.000	150.000	
MSD	Aroclor-1254	11097-69-1	883.58	94.800	% Recov	08/25/03	75.000	125.000	
MSD	Decachlorobiphenyl	2051-24-3	836.39	89.700	% Recov	08/25/03	50.000	150.000	
MSD	Tetrachloro-m-xylene	877-09-8	818.86	87.800	% Recov	08/25/03	50.000	150.000	
SPK-RPD	Aroclor-1254	11097-69-1	94.800	5.139	RPD	08/25/03	0.000	25.000	
SPK-RPD	Decachlorobiphenyl	2051-24-3	89.700	7.717	RPD	08/25/03	0.000	20.000	
SPK-RPD	Tetrachloro-m-xylene	877-09-8	87.800	3.241	RPD	08/25/03	0.000	20.000	
SURR	Decachlorobiphenyl	2051-24-3	938.93	104.000	% Recov	08/25/03	50.000	150.000	
SURR	Tetrachloro-m-xylene	877-09-8	841.25	92.700	% Recov	08/25/03	50.000	150.000	
<b>BATCH QC</b>									
BLANK	Aroclor-1016	12674-11-2	< 50	n/a	ug/Kg	08/25/03			U
BLANK	Aroclor-1221	11104-28-2	< 100	n/a	ug/Kg	08/25/03			U
BLANK	Aroclor-1232	11141-16-5	< 50	n/a	ug/Kg	08/25/03			U
BLANK	Aroclor-1242	53469-21-9	< 50	n/a	ug/Kg	08/25/03			U

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20031117  
 Matrix: SOLID  
 Test: PCBs complete list

SAF Number: F03-006  
 Sample Date:  
 Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
BLANK	Aroclor-1248	12672-29-8	< 50	n/a	ug/Kg	08/25/03			U
BLANK	Aroclor-1254	11097-69-1	< 50	n/a	ug/Kg	08/25/03			U
BLANK	Aroclor-1260	11096-82-5	< 50	n/a	ug/Kg	08/25/03			U
BLANK	Aroclor-1262	37324-23-5	< 50	n/a	ug/Kg	08/25/03			U
BLANK	Aroclor-1268	11100-14-4	< 50	n/a	ug/Kg	08/25/03			U
BLANK	Decachlorobiphenyl	2051-24-3	985.05	98.500	% Recov	08/25/03	50.000	150.000	
BLANK	Tetrachloro-m-xylene	877-09-8	911.08	91.100	% Recov	08/25/03	50.000	150.000	
LCS	Aroclor-1254	11097-69-1	992.58	99.300	% Recov	08/25/03	70.000	130.000	
LCS	Decachlorobiphenyl	2051-24-3	973.45	97.300	% Recov	08/25/03	50.000	150.000	
LCS	Tetrachloro-m-xylene	877-09-8	870.69	87.100	% Recov	08/25/03	50.000	150.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20031117  
 Matrix: SOLID  
 Test: WTPH-D TPH Diesel Range (Wa)

SAF Number: F03-006  
 Sample Date: 08/13/03  
 Receive Date: 08/13/03

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
<b>Lab ID: W030000705</b>									
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>									
MS	Kerosene	TPHKEROSENE	116050	90.100	%Recove	08/22/03	70.000	130.000	
MS	ortho-Terphenyl Surr	84-15-1	24629	95.600	% Recov	08/22/03	70.000	130.000	
MSD	Kerosene	TPHKEROSENE	111040	86.700	%Recove	08/22/03	70.000	130.000	
MSD	ortho-Terphenyl Surr	84-15-1	26642	104.000	% Recov	08/22/03	70.000	130.000	
<b>Lab ID: W030000709</b>									
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>									
MS	Kerosene	TPHKEROSENE	270970	70.500	%Recove	08/22/03	70.000	130.000	
MS	ortho-Terphenyl Surr	84-15-1	72649	94.400	% Recov	08/22/03	70.000	130.000	
MSD	Kerosene	TPHKEROSENE	266420	70.400	%Recove	08/22/03	70.000	130.000	
MSD	ortho-Terphenyl Surr	84-15-1	70118	92.600	% Recov	08/22/03	70.000	130.000	
SPK-RPD	ortho-Terphenyl Surr	84-15-1	92.600	1.925	RPD	08/22/03	0.000	20.000	
SURR	ortho-Terphenyl Surr	84-15-1	24074	93.700	% Recov	08/22/03	70.000	130.000	
<b>BATCH QC</b>									
BLANK	Kerosene	TPHKEROSENE	< 3800	n/a	ug/Kg	08/22/03	0.000	100.000	U
BLANK	ortho-Terphenyl Surr	84-15-1	26423	106.000	ug/Kg	08/22/03	70.000	130.000	
BLANK	Total Pet. Hydrocarbons Diesel	TPHDIESEL	< 3800	n/a	ug/Kg	08/22/03	0.000	300.000	U
LCS	ortho-Terphenyl Surr	84-15-1	25832	103.000	% Recov	08/22/03	70.000	130.000	
LCS	Total Pet. Hydrocarbons Diesel	TPHDIESEL	101800	81.400	% Recov	08/22/03	80.000	120.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20031117  
 Matrix: SOLID  
 Test: Americium by AEA

SAF Number: F03-006  
 Sample Date: 08/13/03  
 Receive Date: 08/13/03

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W030000709									
BATCH QC ASSOCIATED WITH SAMPLE									
DUP	Americium-241	14596-10-2	3.1e-02	33.962	RPD	08/22/03	0.000	20.000	
BATCH QC									
BLANK	Americium-241	14596-10-2	2.2e-02	0.022	PCG	08/22/03	0.000	1000.000	
LCS	Americium-241	14596-10-2	12.53	95.649	% Recov	08/22/03	75.000	125.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20031117  
 Matrix: SOLID  
 Test: Plutonium Isotopics by AEA

SAF Number: F03-006  
 Sample Date: 08/13/03  
 Receive Date: 08/13/03

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W030000709									
BATCH QC ASSOCIATED WITH SAMPLE									
DUP	Pu-239/240 by AEA	PU-239/240	3.6e-02	140.426	RPD	08/22/03	0.000	20.000	*
BATCH QC									
BLANK	Pu-239/240 by AEA	PU-239/240	-1.2e-02	-0.012	PCG	08/22/03	0.000	1000.000	*
LCS	Pu-239/240 by AEA	PU-239/240	12.43	101.057	% Recov	08/22/03	75.000	125.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

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SDG Number: WSCF20031117  
 Matrix: SOLID  
 Test: SW-846 8270B Semi-Vols

SAF Number: F03-006  
 Sample Date: 08/13/03  
 Receive Date: 08/13/03

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W030000709									
BATCH QC ASSOCIATED WITH SAMPLE									
MS	1,2,4-Trichlorobenzene	120-82-1	2867.7	83.000	% Recov	08/20/03	46.000	107.000	
MS	1,4-Dichlorobenzene	106-46-7	2767.4	80.100	% Recov	08/20/03	30.000	96.000	
MS	2,4-Dinitrotoluene	121-14-2	2639.4	76.400	% Recov	08/20/03	59.000	106.000	
MS	2-Fluorophenol	367-12-4	2803.6	81.100	% Recove	08/20/03	42.000	105.000	
MS	Acenaphthene	83-32-9	2876.0	83.200	% Recov	08/20/03	61.000	116.000	
MS	4-Chloro-3-methylphenol	59-50-7	4795.1	92.500	% Recov	08/20/03	61.000	106.000	
MS	2-Chlorophenol	95-57-8	3878.3	74.800	% Recov	08/20/03	66.000	106.000	
MS	N-Nitrosodi-n-dipropylamine	621-64-7	3104.4	89.800	% Recov	08/20/03	71.000	114.000	
MS	2-Fluorobiphenyl	321-60-8	3076.5	89.000	% Recove	08/20/03	56.000	122.000	
MS	Phenol	108-95-2	5158.2	99.500	% Recov	08/20/03	42.000	111.000	
MS	Nitrobenzene-d5	4165-60-0	2574.9	74.500	% Recove	08/20/03	64.000	111.000	
MS	4-Nitrophenol	100-02-7	3767.4	72.700	% Recov	08/20/03	32.000	118.000	
MS	Pentachlorophenol	87-86-5	3167.1	61.100	% Recov	08/20/03	62.000	114.000	
MS	Phenol-d5	4165-62-2	3171.1	91.800	% Recove	08/20/03	54.000	120.000	
MS	Pyrene	129-00-0	2434.0	70.400	% Recov	08/20/03	66.000	118.000	
MS	2,4,6-Tribromophenol	118-79-6	3546.9	103.000	% Recove	08/20/03	24.000	122.000	
MS	Terphenyl-d14 (7Cl)	98904-43-9	2571.1	74.400	% Recove	08/20/03	35.000	150.000	
MSD	1,2,4-Trichlorobenzene	120-82-1	2746.0	79.900	% Recov	08/20/03	46.000	107.000	
MSD	1,4-Dichlorobenzene	106-46-7	2641.6	76.800	% Recov	08/20/03	30.000	96.000	
MSD	2,4-Dinitrotoluene	121-14-2	2718.1	79.000	% Recov	08/20/03	59.000	106.000	
MSD	2-Fluorophenol	367-12-4	2546.4	74.000	% Recove	08/20/03	42.000	105.000	
MSD	Acenaphthene	83-32-9	2778.2	80.800	% Recov	08/20/03	61.000	116.000	
MSD	4-Chloro-3-methylphenol	59-50-7	4317.4	83.700	% Recov	08/20/03	61.000	106.000	
MSD	2-Chlorophenol	95-57-8	3685.9	71.500	% Recov	08/20/03	66.000	106.000	
MSD	N-Nitrosodi-n-dipropylamine	621-64-7	3021.5	87.900	% Recov	08/20/03	71.000	114.000	
MSD	2-Fluorobiphenyl	321-60-8	2785.6	81.000	% Recove	08/20/03	56.000	122.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

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SDG Number: WSCF20031117  
 Matrix: SOLID  
 Test: SW-846 8270B Semi-Vols

SAF Number: F03-006  
 Sample Date: 08/13/03  
 Receive Date: 08/13/03

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
MSD	Phenol	108-95-2	4675.9	90.600	% Recov	08/20/03	42.000	111.000	
MSD	Nitrobenzene-d5	4165-60-0	2388.8	69.500	% Recove	08/20/03	64.000	111.000	
MSD	4-Nitrophenol	100-02-7	3878.8	75.200	% Recov	08/20/03	32.000	118.000	
MSD	Pentachlorophenol	87-86-5	3226.4	62.500	% Recov	08/20/03	62.000	114.000	
MSD	Phenol-d5	4165-62-2	2896.3	84.200	% Recove	08/20/03	54.000	120.000	
MSD	Pyrene	129-00-0	2494.0	72.500	% Recov	08/20/03	66.000	118.000	
MSD	2,4,6-Tribromophenol	118-79-6	3328.5	96.800	% Recove	08/20/03	24.000	122.000	
MSD	Terphenyl-d14 (7Cl)	98904-43-9	2438.4	70.900	% Recove	08/20/03	35.000	150.000	
SPK-RPD	1,2,4-Trichlorobenzene	120-82-1	79.900	3.806	RPD	08/20/03	0.000	20.000	
SPK-RPD	1,4-Dichlorobenzene	106-46-7	76.800	4.207	RPD	08/20/03	0.000	20.000	
SPK-RPD	2,4-Dinitrotoluene	121-14-2	79.000	3.346	RPD	08/20/03	0.000	20.000	
SPK-RPD	2-Fluorophenol	367-12-4	74.000	9.156	% Recove	08/20/03	0.000	20.000	
SPK-RPD	Acenaphthene	83-32-9	80.800	2.927	RPD	08/20/03	0.000	20.000	
SPK-RPD	4-Chloro-3-methylphenol	59-50-7	83.700	9.989	RPD	08/20/03	0.000	20.000	
SPK-RPD	2-Chlorophenol	95-57-8	71.500	4.511	RPD	08/20/03	0.000	20.000	
SPK-RPD	N-Nitrosodi-n-dipropylamine	621-64-7	87.900	2.138	RPD	08/20/03	0.000	20.000	
SPK-RPD	2-Fluorobiphenyl	321-60-8	81.000	9.412	% Recove	08/20/03	0.000	20.000	
SPK-RPD	Phenol	108-95-2	90.600	9.363	RPD	08/20/03	0.000	20.000	
SPK-RPD	Nitrobenzene-d5	4165-60-0	69.500	6.944	% Recove	08/20/03	0.000	20.000	
SPK-RPD	4-Nitrophenol	100-02-7	75.200	3.381	RPD	08/20/03	0.000	20.000	
SPK-RPD	Pentachlorophenol	87-86-5	62.500	2.265	RPD	08/20/03	0.000	20.000	
SPK-RPD	Phenol-d5	4165-62-2	84.200	2.892	% Recove	08/20/03	0.000	20.000	
SPK-RPD	Pyrene	129-00-0	72.500	2.939	RPD	08/20/03	0.000	20.000	
SPK-RPD	2,4,6-Tribromophenol	118-79-6	96.800	6.206	% Recove	08/20/03	0.000	20.000	
SPK-RPD	Terphenyl-d14 (7Cl)	98904-43-9	70.900	4.818	% Recove	08/20/03	0.000	20.000	
SURR	2-Fluorophenol	367-12-4	2395.6	69.400	% Recove	08/20/03	42.000	105.000	
SURR	2-Fluorobiphenyl	321-60-8	3187.2	92.400	% Recove	08/20/03	56.000	122.000	
SURR	Nitrobenzene-d5	4165-60-0	2500.5	72.500	% Recove	08/20/03	64.000	111.000	
SURR	Phenol-d5	4165-62-2	2833.2	82.100	% Recove	08/20/03	54.000	120.000	
SURR	2,4,6-Tribromophenol	118-79-6	2591.7	75.100	% Recove	08/20/03	24.000	122.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20031117  
 Matrix: SOLID  
 Test: SW-846 8270B Semi-Vols

SAF Number: F03-006  
 Sample Date: 08/13/03  
 Receive Date: 08/13/03

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
SURR	Terphenyl-d14 (7Cl)	98904-43-9	2754.3	79.800	%Recover	08/20/03	35.000	150.000	

## BATCH QC

BLANK	1,2-Dichlorobenzene	95-50-1	< 360	n/a	ug/Kg	08/20/03			U
BLANK	1,2,4-Trichlorobenzene	120-82-1	< 290	n/a	ug/Kg	08/20/03			U
BLANK	1,3-Dichlorobenzene	541-73-1	< 320	n/a	ug/Kg	08/20/03			U
BLANK	1,4-Dichlorobenzene	106-46-7	< 310	n/a	ug/Kg	08/20/03			U
BLANK	2,4-Dichlorophenol	120-83-2	< 80	n/a	ug/Kg	08/20/03			U
BLANK	2,4-Dinitrotoluene	121-14-2	< 67	n/a	ug/Kg	08/20/03			U
BLANK	2,4,5-Trichlorophenol	95-95-4	< 73	n/a	ug/Kg	08/20/03			U
BLANK	2,4,6-Trichlorophenol	88-06-2	< 67	n/a	ug/Kg	08/20/03			U
BLANK	2,4-Dimethylphenol	105-67-9	< 67	n/a	ug/Kg	08/20/03			U
BLANK	2,6-Dinitrotoluene	606-20-2	< 67	n/a	ug/Kg	08/20/03			U
BLANK	2-Butoxyethanol	111-76-2	< 100	n/a	ug/Kg	08/20/03			U
BLANK	2-Chloronaphthalene	91-58-7	< 67	n/a	ug/Kg	08/20/03			U
BLANK	2-Fluorophenol	367-12-4	2663.4	79.900	%Recover	08/20/03	42.000	105.000	
BLANK	2-Methylnaphthalene	91-57-6	< 180	n/a	ug/Kg	08/20/03			U
BLANK	2-Methylphenol (cresol, o-)	95-48-7	< 67	n/a	ug/Kg	08/20/03			U
BLANK	2-Nitroaniline	88-74-4	< 67	n/a	ug/Kg	08/20/03			U
BLANK	2-Nitrophenol	88-75-5	< 170	n/a	ug/Kg	08/20/03			U
BLANK	3 & 4 Methylphenol Total	65794-96-9	< 110	n/a	ug/Kg	08/20/03	0.000	300.000	U
BLANK	3-Nitroaniline	99-09-2	< 67	n/a	ug/Kg	08/20/03			U
BLANK	4,6-Dinitro-2-methylphenol	534-52-1	< 670	n/a	ug/Kg	08/20/03			U
BLANK	4-Bromophenylphenyl ether	101-55-3	< 67	n/a	ug/Kg	08/20/03			U
BLANK	4-Chlorophenylphenyl ether	7005-72-3	< 67	n/a	ug/Kg	08/20/03			U
BLANK	Acenaphthene	83-32-9	< 67	n/a	ug/Kg	08/20/03			U
BLANK	Acenaphthylene	208-96-8	< 80	n/a	ug/Kg	08/20/03			U
BLANK	Anthracene	120-12-7	< 67	n/a	ug/Kg	08/20/03			U
BLANK	Bis(2-chloroethyl) ether	111-44-4	< 250	n/a	ug/Kg	08/20/03			U
BLANK	Benzo(a)anthracene	56-55-3	< 67	n/a	ug/Kg	08/20/03			U

# WSCF ANALYTICAL LABORATORY QC REPORT

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SDG Number: WSCF20031117  
 Matrix: SOLID  
 Test: SW-846 8270B Semi-Vols

SAF Number: F03-006  
 Sample Date:  
 Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
BLANK	Benzo(b)fluoranthene	205-99-2	< 67	n/a	ug/Kg	08/20/03			U
BLANK	Benzo(ghi)perylene	191-24-2	< 67	n/a	ug/Kg	08/20/03			U
BLANK	Benzo(a)pyrene	50-32-8	< 67	n/a	ug/Kg	08/20/03			U
BLANK	Bis(2-Chloroethoxy)methane	111-91-1	< 110	n/a	ug/Kg	08/20/03			U
BLANK	Bis(2-ethylhexyl) phthalate	117-81-7	< 560	n/a	ug/Kg	08/20/03			U
BLANK	Bis(2-chloro-1-methylethyl)eth	108-60-1	< 250	n/a	ug/Kg	08/20/03	0.000	10.000	U
BLANK	Benzo(k)fluoranthene	207-08-9	< 67	n/a	ug/Kg	08/20/03			U
BLANK	Butylbenzylphthalate	85-68-7	< 67	n/a	ug/Kg	08/20/03			U
BLANK	Carbazole	86-74-8	< 80	n/a	ug/Kg	08/20/03			U
BLANK	4-Chloroaniline	106-47-8	< 93	n/a	ug/Kg	08/20/03			U
BLANK	4-Chloro-3-methylphenol	59-50-7	< 67	n/a	ug/Kg	08/20/03			U
BLANK	2-Chlorophenol	95-57-8	< 150	n/a	ug/Kg	08/20/03			U
BLANK	Chrysene	218-01-9	< 67	n/a	ug/Kg	08/20/03			U
BLANK	3,3'-Dichlorobenzidine	91-94-1	< 80	n/a	ug/Kg	08/20/03			U
BLANK	Dibenz(a,h)anthracene	53-70-3	< 67	n/a	ug/Kg	08/20/03			U
BLANK	Dibenzofuran	132-64-9	< 67	n/a	ug/Kg	08/20/03			U
BLANK	Di-n-butylphthalate	84-74-2	< 87	n/a	ug/Kg	08/20/03			U
BLANK	Diethylphthalate	84-66-2	210	210.000	ug/Kg	08/20/03			U
BLANK	Dimethyl phthalate	131-11-3	< 67	n/a	ug/Kg	08/20/03			U
BLANK	2,4-Dinitrophenol	51-28-5	< 670	n/a	ug/Kg	08/20/03			U
BLANK	Di-n-octylphthalate	117-84-0	< 67	n/a	ug/Kg	08/20/03			U
BLANK	N-Nitrosodi-n-dipropylamine	621-64-7	< 67	n/a	ug/Kg	08/20/03			U
BLANK	2-Fluorobiphenyl	321-60-8	3159.2	94.800	%Recover	08/20/03	56.000	122.000	U
BLANK	Fluorene	86-73-7	< 67	n/a	ug/Kg	08/20/03			U
BLANK	Fluoranthene	206-44-0	< 67	n/a	ug/Kg	08/20/03			U
BLANK	Hexachlorobenzene	118-74-1	< 67	n/a	ug/Kg	08/20/03			U
BLANK	Hexachlorobutadiene	87-68-3	< 370	n/a	ug/Kg	08/20/03			U
BLANK	Hexachlorocyclopentadiene	77-47-4	< 310	n/a	ug/Kg	08/20/03			U
BLANK	Hexachloroethane	67-72-1	< 470	n/a	ug/Kg	08/20/03			U
BLANK	Indeno(1,2,3-cd)pyrene	193-39-5	< 67	n/a	ug/Kg	08/20/03			U

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20031117  
 Matrix: SOLID  
 Test: SW-846 8270B Semi-Vols

SAF Number: F03-006  
 Sample Date:  
 Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
BLANK	Isophorone	78-59-1	< 67	n/a	ug/Kg	08/20/03			U
BLANK	Phenol	108-95-2	< 100	n/a	ug/Kg	08/20/03			U
BLANK	Naphthalene	91-20-3	< 290	n/a	ug/Kg	08/20/03			U
BLANK	Nitrobenzene-d5	4165-60-0	2661.2	79.800	%Recover	08/20/03	64.000	111.000	
BLANK	Nitrobenzene	98-95-3	< 260	n/a	ug/Kg	08/20/03			U
BLANK	4-Nitrophenol	100-02-7	< 650	n/a	ug/Kg	08/20/03			U
BLANK	4-Nitroaniline	100-01-6	< 250	n/a	ug/Kg	08/20/03			U
BLANK	N-Nitrosodiphenylamine	86-30-6	< 67	n/a	ug/Kg	08/20/03			U
BLANK	Pentachlorophenol	87-86-5	< 300	n/a	ug/Kg	08/20/03			U
BLANK	Phenanthrene	85-01-8	< 67	n/a	ug/Kg	08/20/03			U
BLANK	Phenol-d5	4165-62-2	3046.3	91.400	%Recover	08/20/03	54.000	120.000	
BLANK	Pyrene	129-00-0	< 67	n/a	ug/Kg	08/20/03			U
BLANK	Tributyl phosphate	126-73-8	< 67	n/a	ug/Kg	08/20/03			U
BLANK	2,4,6-Tribromophenol	118-79-6	3011.8	90.400	%Recover	08/20/03	24.000	122.000	
BLANK	Terphenyl-d14 (7Cl)	98904-43-9	2634.4	79.000	%Recover	08/20/03	35.000	150.000	
LCS	1,2,4-Trichlorobenzene	120-82-1	2345.6	70.400	% Recov	08/20/03	46.000	107.000	
LCS	1,4-Dichlorobenzene	106-46-7	2747.2	82.400	% Recov	08/20/03	42.000	111.000	
LCS	2,4-Dinitrotoluene	121-14-2	2879.3	86.400	% Recov	08/20/03	59.000	106.000	
LCS	2-Fluorophenol	367-12-4	2782.5	83.500	% Recov	08/20/03	50.000	110.000	
LCS	Acenaphthene	83-32-9	3033.2	91.000	% Recov	08/20/03	61.000	116.000	
LCS	4-Chloro-3-methylphenol	59-50-7	3942.8	78.900	% Recov	08/20/03	61.000	106.000	
LCS	2-Chlorophenol	95-57-8	3919.5	78.400	% Recov	08/20/03	66.000	106.000	
LCS	N-Nitrosodi-n-dipropylamine	621-64-7	2438.3	73.100	% Recov	08/20/03	71.000	114.000	
LCS	2-Fluorobiphenyl	321-60-8	2712.4	81.400	% Recov	08/20/03	58.000	109.000	
LCS	Phenol	108-95-2	4715.7	94.300	% Recov	08/20/03	67.000	105.000	
LCS	Nitrobenzene-d5	4165-60-0	2279.0	68.400	% Recov	08/20/03	60.000	118.000	
LCS	4-Nitrophenol	100-02-7	3780.1	75.600	% Recov	08/20/03	32.000	118.000	
LCS	Pentachlorophenol	87-86-5	3949.9	79.000	% Recov	08/20/03	62.000	114.000	
LCS	Phenol-d5	4165-62-2	2640.1	79.200	% Recov	08/20/03	59.000	116.000	
LCS	Pyrene	129-00-0	2285.7	68.600	% Recov	08/20/03	66.000	118.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

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SDG Number: WSCF20031117  
Matrix: SOLID  
Test: SW-846 8270B Semi-Vols

SAF Number: F03-006  
Sample Date:  
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
LCS	2,4,6-Tribromophenol	118-79-6	3266.3	98.000	% Recov	08/20/03	60.000	120.000	
LCS	Terphenyl-d14 (7Cl)	98904-43-9	2367.6	71.000	% Recov	08/20/03	60.000	120.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20031117  
 Matrix: SOLID  
 Test: ICP-2008 MS All possible metal

SAF Number: F03-006  
 Sample Date: 08/13/03  
 Receive Date: 08/13/03

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
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Lab ID: W030000701  
 BATCH QC ASSOCIATED WITH SAMPLE

MS	Silver	7440-22-4	373.427	94.778	% Recov	09/08/03	70.000	130.000	
MS	Arsenic	7440-38-2	370.867	94.129	% Recov	09/08/03	70.000	130.000	
MS	Barium	7440-39-3	368.4	93.503	% Recov	09/08/03	70.000	130.000	
MS	Beryllium	7440-41-7	363.5	92.259	% Recov	09/08/03	70.000	130.000	
MS	Chromium	7440-47-3	368.51	93.530	% Recov	09/08/03	70.000	130.000	
MS	Copper	7440-50-8	360.81	91.576	% Recov	09/08/03	70.000	130.000	
MS	Mercury	7439-97-6	19.23	97.614	% Recov	09/08/03	70.000	130.000	
MS	Nickel	7440-02-0	361.19	91.673	% Recov	09/08/03	70.000	130.000	
MS	Lead	7439-92-1	370.6	94.061	% Recov	09/08/03	70.000	130.000	
MS	Antimony	7440-36-0	378.1	95.964	% Recov	09/08/03	70.000	130.000	
MS	Uranium	7440-61-1	369.7	93.832	% Recov	09/08/03	70.000	130.000	
MSD	Silver	7440-22-4	355.827	90.311	% Recov	09/08/03	70.000	130.000	
MSD	Arsenic	7440-38-2	359.067	91.134	% Recov	09/08/03	70.000	130.000	
MSD	Barium	7440-39-3	336.1	85.305	% Recov	09/08/03	70.000	130.000	
MSD	Beryllium	7440-41-7	343.5	87.183	% Recov	09/08/03	70.000	130.000	
MSD	Chromium	7440-47-3	351.31	89.165	% Recov	09/08/03	70.000	130.000	
MSD	Copper	7440-50-8	341.71	86.728	% Recov	09/08/03	70.000	130.000	
MSD	Mercury	7439-97-6	18.63	94.569	% Recov	09/08/03	70.000	130.000	
MSD	Nickel	7440-02-0	348.19	88.373	% Recov	09/08/03	70.000	130.000	
MSD	Lead	7439-92-1	357.4	90.711	% Recov	09/08/03	70.000	130.000	
MSD	Antimony	7440-36-0	372.3	94.492	% Recov	09/08/03	70.000	130.000	
MSD	Uranium	7440-61-1	354.2	89.898	% Recov	09/08/03	70.000	130.000	

Lab ID: W030000709  
 BATCH QC ASSOCIATED WITH SAMPLE

MS	Silver	7440-22-4	365.8	92.095	% Recov	09/08/03	70.000	130.000	
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# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20031117  
 Matrix: SOLID  
 Test: ICP-2008 MS All possible metal

SAF Number: F03-006  
 Sample Date: 08/13/03  
 Receive Date: 08/13/03

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
MS	Arsenic	7440-38-2	384.9	96.903	% Recov	09/08/03	70.000	130.000	
MS	Barium	7440-39-3	394.04	99.204	% Recov	09/08/03	70.000	130.000	
MS	Beryllium	7440-41-7	367.8	92.598	% Recov	09/08/03	70.000	130.000	
MS	Chromium	7440-47-3	370.63	93.311	% Recov	09/08/03	70.000	130.000	
MS	Copper	7440-50-8	376.288	94.735	% Recov	09/08/03	70.000	130.000	
MS	Mercury	7439-97-6	19.97	100.554	% Recov	09/08/03	70.000	130.000	
MS	Nickel	7440-02-0	372.29	93.729	% Recov	09/08/03	70.000	130.000	
MS	Lead	7439-92-1	369.6	93.051	% Recov	09/08/03	70.000	130.000	
MS	Antimony	7440-36-0	397.2	100.000	% Recov	09/08/03	70.000	130.000	
MS	Uranium	7440-61-1	367.2	92.447	% Recov	09/08/03	70.000	130.000	
MSD	Silver	7440-22-4	365.9	92.680	% Recov	09/08/03	70.000	130.000	
MSD	Arsenic	7440-38-2	387.3	98.100	% Recov	09/08/03	70.000	130.000	
MSD	Barium	7440-39-3	365.34	92.538	% Recov	09/08/03	70.000	130.000	
MSD	Beryllium	7440-41-7	355.8	90.122	% Recov	09/08/03	70.000	130.000	
MSD	Chromium	7440-47-3	368.13	93.245	% Recov	09/08/03	70.000	130.000	
MSD	Copper	7440-50-8	370.888	93.943	% Recov	09/08/03	70.000	130.000	
MSD	Mercury	7439-97-6	19.8	100.304	% Recov	09/08/03	70.000	130.000	
MSD	Nickel	7440-02-0	372.09	94.248	% Recov	09/08/03	70.000	130.000	
MSD	Lead	7439-92-1	366.7	92.882	% Recov	09/08/03	70.000	130.000	
MSD	Antimony	7440-36-0	391.3	99.113	% Recov	09/08/03	70.000	130.000	
MSD	Uranium	7440-61-1	357.2	90.476	% Recov	09/08/03	70.000	130.000	

Lab ID: W030000775  
 BATCH QC ASSOCIATED WITH SAMPLE

MS	Silver	7440-22-4	375.3	95.545	% Recov	09/08/03	70.000	130.000	
MS	Arsenic	7440-38-2	380.185	96.788	% Recov	09/08/03	70.000	130.000	
MS	Barium	7440-39-3	362.48	92.281	% Recov	09/08/03	70.000	130.000	
MS	Beryllium	7440-41-7	321.6	81.874	% Recov	09/08/03	70.000	130.000	
MS	Chromium	7440-47-3	360.568	91.794	% Recov	09/08/03	70.000	130.000	
MS	Copper	7440-50-8	349.499	88.976	% Recov	09/08/03	70.000	130.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20031117  
 Matrix: SOLID  
 Test: ICP-2008 MS All possible metal

SAF Number: F03-006  
 Sample Date: 08/28/03  
 Receive Date: 08/28/03

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
MS	Mercury	7439-97-6	19.47	99.134	% Recov	09/08/03	70.000	130.000	
MS	Nickel	7440-02-0	354.616	90.279	% Recov	09/08/03	70.000	130.000	
MS	Lead	7439-92-1	362.5	92.286	% Recov	09/08/03	70.000	130.000	
MS	Antimony	7440-36-0	396.2	100.866	% Recov	09/08/03	70.000	130.000	
MS	Uranium	7440-61-1	351.9	89.588	% Recov	09/08/03	70.000	130.000	
MSD	Silver	7440-22-4	403.9	100.174	% Recov	09/08/03	70.000	130.000	
MSD	Arsenic	7440-38-2	402.285	99.773	% Recov	09/08/03	70.000	130.000	
MSD	Barium	7440-39-3	391.68	97.143	% Recov	09/08/03	70.000	130.000	
MSD	Beryllium	7440-41-7	345.7	85.739	% Recov	09/08/03	70.000	130.000	
MSD	Chromium	7440-47-3	387.268	96.049	% Recov	09/08/03	70.000	130.000	
MSD	Copper	7440-50-8	377.399	93.601	% Recov	09/08/03	70.000	130.000	
MSD	Mercury	7439-97-6	20.91	103.720	% Recov	09/08/03	70.000	130.000	
MSD	Nickel	7440-02-0	377.816	93.704	% Recov	09/08/03	70.000	130.000	
MSD	Lead	7439-92-1	389.8	96.677	% Recov	09/08/03	70.000	130.000	
MSD	Antimony	7440-36-0	424	105.159	% Recov	09/08/03	70.000	130.000	
MSD	Uranium	7440-61-1	375.7	93.180	% Recov	09/08/03	70.000	130.000	

Lab ID: W030000799  
 BATCH QC ASSOCIATED WITH SAMPLE

MS	Silver	7440-22-4	376.7	93.706	% Recov	09/08/03	70.000	130.000	
MS	Arsenic	7440-38-2	377.936	94.014	% Recov	09/08/03	70.000	130.000	
MS	Barium	7440-39-3	363.93	90.530	% Recov	09/08/03	70.000	130.000	
MS	Beryllium	7440-41-7	349.8	87.015	% Recov	09/08/03	70.000	130.000	
MS	Chromium	7440-47-3	371.521	92.418	% Recov	09/08/03	70.000	130.000	
MS	Copper	7440-50-8	368.95	91.779	% Recov	09/08/03	70.000	130.000	
MS	Mercury	7439-97-6	20.09	99.950	% Recov	09/08/03	70.000	130.000	
MS	Nickel	7440-02-0	365.098	90.820	% Recov	09/08/03	70.000	130.000	
MS	Lead	7439-92-1	375	93.284	% Recov	09/08/03	70.000	130.000	
MS	Antimony	7440-36-0	398.5	99.129	% Recov	09/08/03	70.000	130.000	
MS	Uranium	7440-61-1	359.358	89.393	% Recov	09/08/03	70.000	130.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20031117  
 Matrix: SOLID  
 Test: ICP-2008 MS All possible metal

SAF Number: F03-006  
 Sample Date: 09/04/03  
 Receive Date: 09/04/03

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
MSD	Silver	7440-22-4	382.6	95.174	% Recov	09/08/03	70.000	130.000	
MSD	Arsenic	7440-38-2	379.236	94.337	% Recov	09/08/03	70.000	130.000	
MSD	Barium	7440-39-3	361.83	90.007	% Recov	09/08/03	70.000	130.000	
MSD	Beryllium	7440-41-7	354.4	88.159	% Recov	09/08/03	70.000	130.000	
MSD	Chromium	7440-47-3	369.221	91.846	% Recov	09/08/03	70.000	130.000	
MSD	Copper	7440-50-8	367.85	91.505	% Recov	09/08/03	70.000	130.000	
MSD	Mercury	7439-97-6	19.73	98.062	% Recov	09/08/03	70.000	130.000	
MSD	Nickel	7440-02-0	363.198	90.348	% Recov	09/08/03	70.000	130.000	
MSD	Lead	7439-92-1	372.6	92.687	% Recov	09/08/03	70.000	130.000	
MSD	Antimony	7440-36-0	396.2	98.557	% Recov	09/08/03	70.000	130.000	
MSD	Uranium	7440-61-1	361.558	89.940	% Recov	09/08/03	70.000	130.000	

## BATCH QC

BLANK	Silver	7440-22-4	<0.2	n/a	ug/L	09/08/03	-0.440	0.440	U
BLANK	Arsenic	7440-38-2	<0.3	n/a	ug/L	09/08/03	-0.660	0.660	U
BLANK	Barium	7440-39-3	<0.2	n/a	ug/L	09/08/03	-0.440	0.440	U
BLANK	Beryllium	7440-41-7	<0.3	n/a	ug/L	09/08/03	-0.660	0.660	U
BLANK	Chromium	7440-47-3	0.325	0.325	ug/L	09/08/03	-0.660	0.660	
BLANK	Copper	7440-50-8	<0.5	n/a	ug/L	09/08/03	-1.100	1.100	U
BLANK	Mercury	7439-97-6	<0.1	n/a	ug/L	09/08/03	-0.220	0.220	U
BLANK	Nickel	7440-02-0	<0.5	n/a	ug/L	09/08/03	-1.100	1.100	U
BLANK	Lead	7439-92-1	<1.2	n/a	ug/L	09/08/03	-2.640	2.640	U
BLANK	Antimony	7440-36-0	<0.5	n/a	ug/L	09/08/03	-1.100	1.100	U
BLANK	Uranium	7440-61-1	<0.1	n/a	ug/L	09/08/03	-0.220	0.220	U
LCS	Silver	7440-22-4	169.9	142.773	% Recov	09/08/03	85.000	115.000	
LCS	Arsenic	7440-38-2	200	102.564	% Recov	09/08/03	85.000	115.000	
LCS	Barium	7440-39-3	379.8	96.888	% Recov	09/08/03	85.000	115.000	
LCS	Beryllium	7440-41-7	72.98	96.919	% Recov	09/08/03	85.000	115.000	
LCS	Chromium	7440-47-3	81.87	94.647	% Recov	09/08/03	85.000	115.000	
LCS	Copper	7440-50-8	128.8	101.417	% Recov	09/08/03	85.000	115.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20031117  
 Matrix: SOLID  
 Test: ICP-2008 MS All possible metal

SAF Number: F03-006  
 Sample Date:  
 Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
LCS	Mercury	7439-97-6	9.272	98.533	% Recov	09/08/03	85.000	115.000	
LCS	Nickel	7440-02-0	86.29	100.000	% Recov	09/08/03	85.000	115.000	
LCS	Lead	7439-92-1	95.69	101.259	% Recov	09/08/03	85.000	115.000	
LCS	Antimony	7440-36-0	135.2	97.971	% Recov	09/08/03	85.000	115.000	
LCS	Uranium	7440-61-1	378	97.423	% Recov	09/08/03	85.000	115.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20031117  
 Matrix: SOLID  
 Test: Cyanide by Midi/Spectrophotom

SAF Number: F03-006  
 Sample Date: 08/13/03  
 Receive Date: 08/13/03

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
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Lab ID: W030000705  
**BATCH QC ASSOCIATED WITH SAMPLE**

MS	Cyanide by Midi/Spectrophotom	57-12-5	96.5	96.500	% Recov	09/09/03	75.000	125.000	
MSD	Cyanide by Midi/Spectrophotom	57-12-5	95.5	95.500	% Recov	09/09/03	75.000	125.000	
SPK-RPD	Cyanide by Midi/Spectrophotom	57-12-5	95.500	1.042	RPD	09/09/03	0.000	20.000	

**BATCH QC**

BLANK	Cyanide by Midi/Spectrophotom	57-12-5	2.7	2.700	ug/L	09/09/03	-4.000	4.000	
BLNK-PREP	Cyanide by Midi/Spectrophotom	57-12-5	2.7	2.700	ug/L	09/09/03	-4.000	4.000	
DUP	Cyanide by Midi/Spectrophotom	57-12-5	n/a	n/a	RPD	09/09/03	0.000	20.000	
LCS	Cyanide by Midi/Spectrophotom	57-12-5	105.0	105.000	% Recov	09/09/03	85.000	115.000	
LCS-2	Cyanide by Midi/Spectrophotom	57-12-5	n/a	n/a	% Recov	09/09/03	85.000	115.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

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SDG Number: WSCF20031117  
 Matrix: SOLID  
 Test: ICP Metals Analysis, Grd H20 P

SAF Number: F03-006  
 Sample Date: 08/13/03  
 Receive Date: 08/13/03

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W030000701									
BATCH QC ASSOCIATED WITH SAMPLE									
MS	Boron	7440-42-8	244.75	98.690	% Recov	09/09/03	75.000	125.000	
MS	Bismuth	7440-69-9	229	92.339	% Recov	09/09/03	75.000	125.000	
MSD	Boron	7440-42-8	244650	98.649	% Recov	09/09/03	75.000	125.000	
MSD	Bismuth	7440-69-9	229300	92.460	% Recov	09/09/03	75.000	125.000	
Lab ID: W030000709									
BATCH QC ASSOCIATED WITH SAMPLE									
MS	Boron	7440-42-8	268	107.631	% Recov	09/09/03	75.000	125.000	
MS	Bismuth	7440-69-9	252	101.205	% Recov	09/09/03	75.000	125.000	
MSD	Boron	7440-42-8	268	107.631	% Recov	09/09/03	75.000	125.000	
MSD	Bismuth	7440-69-9	253	101.606	% Recov	09/09/03	75.000	125.000	
Lab ID: W030000723									
BATCH QC ASSOCIATED WITH SAMPLE									
MS	Boron	7440-42-8	266	106.827	% Recov	09/09/03	75.000	125.000	
MS	Bismuth	7440-69-9	252	101.205	% Recov	09/09/03	75.000	125.000	
MSD	Boron	7440-42-8	270	108.434	% Recov	09/09/03	75.000	125.000	
MSD	Bismuth	7440-69-9	253	101.606	% Recov	09/09/03	75.000	125.000	
SPK-RPD	Boron	7440-42-8	108.434	1.493	RPD	09/09/03	0.000	20.000	
SPK-RPD	Bismuth	7440-69-9	101.606	0.395	RPD	09/09/03	0.000	20.000	
BATCH QC									
BLANK	Boron	7440-42-8	6.6	0.065	ug/L	09/09/03	-10.000	10.000	
BLANK	Bismuth	7440-69-9	<0.1	n/a	ug/L	09/09/03	-1.000	0.068	U
LCS	Boron	7440-42-8	59.4	92.523	% Recov	09/09/03	80.000	120.000	
LCS	Bismuth	7440-69-9	301	60.442	% Recov	09/09/03	80.000	120.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

2-37

SDG Number: WSCF20031117  
Matrix: SOLID  
Test: ICP Metals Analysis, Grd H20 P

SAF Number: F03-006  
Sample Date:  
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
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# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20031117  
 Matrix: SOLID  
 Test: NWTPH-GX TPH Gasoline Range

SAF Number: F03-006  
 Sample Date: 08/13/03  
 Receive Date: 08/13/03

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
<b>Lab ID: W030000709</b>									
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>									
MS	Total Pet. Hydrocarbons Gas	TPHGASOLINE	2920	73.700	% Recov	08/25/03	50.000	150.000	
MSD	Total Pet. Hydrocarbons Gas	TPHGASOLINE	3440	86.825	% Recov	08/25/03	50.000	150.000	
SPK-RPD	Total Pet. Hydrocarbons Gas	TPHGASOLINE	86.825	16.353	RPD	08/25/03	0.000	20.000	
<b>BATCH QC</b>									
BLANK	Total Pet. Hydrocarbons Gas	TPHGASOLINE	<255	n/a	mg/L	08/25/03	0.000	300.000	U
LCS	Total Pet. Hydrocarbons Gas	TPHGASOLINE	3740	98.111	% Recov	08/25/03	85.000	115.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20031117  
 Matrix: SOLID  
 Test: Alcohols, Glycols - 8015

SAF Number: F03-006  
 Sample Date: 08/13/03  
 Receive Date: 08/13/03

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
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Lab ID: W030000709  
 BATCH QC ASSOCIATED WITH SAMPLE

MS	2-Bromoethanol	540-51-2	23300	116.500	%Recover	08/26/03	70.000	125.000	
MS	Diethyl ether	60-29-7	16670	83.350	%Recover	08/26/03	75.000	125.000	
MS	Ethylene glycol	107-21-1	16900	84.500	%Recover	08/26/03	75.000	125.000	
MS	Methanol	67-56-1	18100	90.500	%Recover	08/26/03	75.000	125.000	
MSD	2-Bromoethanol	540-51-2	18300	91.500	%Recover	08/26/03	70.000	125.000	
MSD	Diethyl ether	60-29-7	16100	80.500	%Recover	08/26/03	75.000	125.000	
MSD	Ethylene glycol	107-21-1	17200	86.000	%Recover	08/26/03	75.000	125.000	
MSD	Methanol	67-56-1	17200	86.000	%Recover	08/26/03	75.000	125.000	
SPK-RPD	2-Bromoethanol	540-51-2	91.500	24.038	RPD	08/26/03	0.000	20.000	
SPK-RPD	Diethyl ether	60-29-7	80.500	3.479	RPD	08/26/03	0.000	20.000	
SPK-RPD	Ethylene glycol	107-21-1	86.000	1.760	RPD	08/26/03	0.000	20.000	
SPK-RPD	Methanol	67-56-1	86.000	5.099	RPD	08/26/03	0.000	20.000	

BATCH QC

BLANK	2-Bromoethanol	540-51-2	19650	0.983	ug/Kg	08/26/03	0.000	10.000	
BLANK	Diethyl ether	60-29-7	<5000	n/a	ug/Kg	08/26/03	0.000	10.000	U
BLANK	Ethylene glycol	107-21-1	<5000	n/a	ug/Kg	08/26/03	0.000	5.000	U
BLANK	Methanol	67-56-1	<1000	n/a	ug/Kg	08/26/03	0.000	10.000	U
LCS	2-Bromoethanol	540-51-2	19580	97.900	%Recover	08/26/03	70.000	130.000	
LCS	Diethyl ether	60-29-7	18710	93.550	%Recover	08/26/03	70.000	130.000	
LCS	Ethylene glycol	107-21-1	16000	80.000	%Recover	08/26/03	70.000	130.000	
LCS	Methanol	67-56-1	24000	120.000	%Recover	08/26/03	70.000	130.000	

T4180-03-SLF-032

ATTACHMENT 3

**SAMPLE RECEIPT INFORMATION**

Consisting of 3 pages  
Cover page not included

File  
V13  
9/10/03

ACKNOWLEDGMENT OF SAMPLES RECEIVED

Ground Water Protection Program

Richland, WA 99352  
Attn: Steve Trent

Customer Code: GPP  
PO#: 117504/ES20  
Group#: 20031117  
Project#: F03-006  
Proj Mgr: STEVE TRENT A0-21  
Phone: 373-5869

The following samples were received from you on 08/13/03. They have been scheduled for the tests listed beside each sample. If this information is incorrect, please contact your service representative. Thank you for using Waste Sampling and Characterization Facility.

Sample#	Sample Id	Tests Scheduled	Matrix	Sample Date
W030000709	B173V6	GPP	TRENT Solid, or handle as if solid	08/13/03
		@2008 @8015GPP @AEA-30 @AEA-31 @AEA-32		
		@GEA-GPP @IC-30 @ICP-GPP @PCBGPP @SVOCGPP @TPHD		
		@TPHG-WA CN-02 NH4-IC PERSOLID PH-30		

Test Acronym Description

Test Acronym	Description
@2008	ICP-2008 MS All possible metal
@8015GPP	Alcohols, Glycols - 8015
@AEA-30	Plutonium Isotopics by AEA
@AEA-31	Americium by AEA
@AEA-32	Uranium Isotopics by AEA
@GEA-GPP	Gamma Energy Analysis-grd H2O
@IC-30	Anions by Ion Chromatography
@ICP-GPP	ICP Metals Analysis, Grd H2O P
@PCBGPP	PCBs complete list
@SVOCGPP	SW-846 8270B Semi-Vols
@TPHD-WA	WTPH-D TPH Diesel Range (Wa)
@TPHG-WA	NWTPH-GX TPH Gasoline Range
CN-02	Cyanide by Midi/Spectrophotom
NH4-IC	Ammonia (N) by IC
PERSOLID	Percent Solids
PH-30	pH Soil and Waste Measurement

KB  
MAN  
3-1

FH-Central Plateau Project		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST					F03-006-196		Page 1 of 2			
Collector Pope/Pfister/Hughes/Johansen		Company Contact LC Hulstrom		Telephone No. 373-3928		Project Coordinator TRENT, SJ		Price Code 8N		Data Turnaround 45 Days		
Project Designation 200-PW-2/200-PW-4 OU - Borehole Soil Sampling		Sampling Location <i>7-10-03</i> 216-A-36B (E3248) - 197.5-200' (24160)			SAF No. F03-006		Air Quality <input type="checkbox"/>					
Ice Chest No.		Field Logbook No. HNF-N-3361		COA 117504ES10		Method of Shipment Federal Express						
Shipped To Waste Sampling & Characterization		Offsite Property No.			Bill of Lading/Air Bill No.							
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation	Cool 4C	Cool 4C	Cool 4C					
Special Handling and/or Storage  20031117				Type of Container	aG	Gs*	<i>g</i>					
				No. of Container(s)	1	2	1					
				Volume	40mL	40mL	125mL					
SAMPLE ANALYSIS				See item (1) in Special Instructions.	See item (2) in Special Instructions.	See item (3) in Special Instructions.						
Sample No.	Matrix *	Sample Date	Sample Time									
B173V6 W03000J709	SOIL	8/13/02	0740	X	X	X						
CHAIN OF POSSESSION				Sign/Print Names			SPECIAL INSTRUCTIONS				Matrix *	
Relinquished By/Removed From <i>JJ Pope</i>		Date/Time 8/13/02 1350		Received By/Stored In <i>J. Hulstrom</i>		Date/Time 8/15/03		Report kerosene and diesel range compounds from WTPH-D analysis. FH acknowledges that holding times (less than 14 days) may not be met by the lab due to the radl characteristics.  (1) Semi-VOA - 8270A (TCL); Semi-VOA - 8270A (Add-On) (2-Butoxyethanol, Tributyl phosphate); TPH-Diesel Range - WTPH-D; TPH-Gasoline Range - WTPH-G; PCBs - 8082 (2) Alcohols, Glycols, & Ketones - 8015 (Diethyl ether, Ethylene glycol, Methanol) (3) Gamma Spectroscopy (Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155); Gamma Spec - Add-on (Antimony-125, Cesium-134, Radium-226, Radium-228, Tin-126); Isotopic Plutonium; Americium-241; Isotopic Uranium; Trace Elements ICP/MS - 200.8 (Complete) (Antimony, Arsenic, Barium, Beryllium, Chromium, Copper, Lead, Mercury, Nickel, Silver, Uranium); ICP Metals - 6010A (Add-on) (Bismuth, Boron); IC Anions - 300.0 (Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Phosphate, Sulfate); Cyanide (Total) - 335.2; Cations (IC) - 300.7 (Nitrogen in ammonium); pH (Soil) - 9045				S=Soil SR=Sediment SO=Solid SL=Sludge W=Water O=Oil A=Air DS=Dry Solid DL=Dry Liquid T=Time WI=Wipe L=Liquid V=Vegetation X=Other
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time						
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time						
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time						
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time						
LABORATORY SECTION	Received By			Title			Date/Time					
FINAL SAMPLE DISPOSITION	Disposal Method			Disposed By			Date/Time					

Sims, Vic T

**From:** Ayres, Doris E  
**Sent:** Thursday, August 14, 2003 9:10 AM  
**To:** Neely, Michael; Trent, Stephen J  
**Cc:** Dale, Troy F; Trechter, John E Jr.; Beebe, Kevin L; Sims, Vic T  
**Subject:** RE: SDGs 20031112, 20031116, and 20031117 Sample Receipt Issues

See my comments below.

Doris

-----Original Message-----

**From:** Neely, Michael  
**Sent:** Thursday, August 14, 2003 5:31 AM  
**To:** Trent, Stephen J; Ayres, Doris E  
**Cc:** Dale, Troy F; Trechter, John E Jr.; Beebe, Kevin L; Sims, Vic T  
**Subject:** SDGs 20031112, 20031116, and 20031117 Sample Receipt Issues  
**Importance:** High

Steve:

Three (3) of the five (5) GPP sample delivery groups (SDGs) that were received at WSCF yesterday (08-13-03) are depicted below:

1. SDG 20031112 - Samples B17C41, B17C42, B17C43 - Under SAF F03-012
2. SDG 20031116 - Sample B174B6 - Under SAF F03-007
3. SDG 20031117 - Sample B173V6 - Under SAF F03-006

There are several issues associated with these SDGs that will require resolution by GPP prior to WSCF proceeding with the analyses. The issues requiring GPP resolution are briefly summarized below.

1. SDG 20031112 - On the chain of custody (COC), GPP is requesting TPH-Diesel Range - WTPH-D. However, there are no "special instructions" on the COC requesting kerosene. Is GPP interested in WSCF reporting kerosene and diesel range compounds from the WTPH-D analyses? **Please proceed and report kerosene and the diesel range compounds.**
2. SDG 20031116 - On the COC, GPP is requesting benzyl alcohol as part of the VOA - 8260A Add-On list. However, benzyl alcohol is actually part of the WSCF Semi-VOA - 8270A Add-On list. There is insufficient sample [i.e., VOA protocol requires only three (3) 40-mL samples] to analyze for the benzyl alcohol using the Semi-VOA protocol, which would require at least a 1-L sample [assuming that no QC is required, and four (4) 1-L samples if full QC is required]. Therefore, does GPP want WSCF to remove benzyl alcohol from the list of requested analytes on the COC (i.e., no analyses for benzyl alcohol will be performed by WSCF)? Or, would GPP like to provide WSCF with the additional sample volume in order for WSCF to perform the Semi-VOA analyses for benzyl alcohol? **Please remove benzyl alcohol from the list of requested analytes on the COC.**
3. SDG 20031117 - On the COC, GPP is requesting ICP-MS 200.8 "Complete". WSCF assumes that GPP is not really requesting the "complete" WSCF library for ICP-MS method 200.8, and is only requesting the specific metals that are listed after the word "complete". Are these valid assumptions? **Please report only the specific metals that are listed after the word "complete".**

Thank you for your help with this. Your expeditious reply would be greatly appreciated.